

US EPA ARCHIVE DOCUMENT

**DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION**  
 Interim Final 2/5/99  
**RCRA Corrective Action**  
**Environmental Indicator (EI) RCRIS code (CA750)**

**Migration of Contaminated Groundwater Under Control**

<b>Facility Name:</b>	Former GM Delco Plant 5
<b>Facility Address:</b>	1723 North Washington Street, Kokomo, Indiana
<b>Facility EPA ID #:</b>	IND 000 806 844

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1. Has **all** available relevant/significant information on known and reasonably suspected releases to the groundwater media, subject to RCRA Corrective Action (e.g., from Solid Waste Management Units (SWMU), Regulated Units (RU), and Areas of Concern (AOC)), been **considered** in this EI determination?

- If yes - check here and continue with #2 below.
- If no - re-evaluate existing data, or
- If data are not available skip to #6 and enter "IN" (more information needed) status code.

## **BACKGROUND**

### **Definition of Environmental Indicators (for the RCRA Corrective Action)**

Environmental Indicators (EI) are measures being used by the RCRA Corrective Action program to go beyond programmatic activity measures (e.g., reports received and approved, etc.) to track changes in the quality of the environment. The two EI developed to-date indicate the quality of the environment in relation to current human exposures to contamination and the migration of contaminated groundwater. An EI for non-human (ecological) receptors is intended to be developed in the future.

### **Definition of "Migration of Contaminated Groundwater Under Control" EI**

A positive "Migration of Contaminated Groundwater Under Control" EI determination ("YE" status code) indicates that the migration of "contaminated" groundwater has stabilized, and that monitoring will be conducted to confirm that contaminated groundwater remains within the original "area of contaminated groundwater" (for all groundwater "contamination" subject to RCRA corrective action at or from the identified facility (i.e., site-wide)).

### **Relationship of EI to Final Remedies**

While Final remedies remain the long-term objective of the RCRA Corrective Action program the EI are near-term objectives which are currently being used as Program measures for the Government Performance and Results Act of 1993, GPRA). The "Migration of Contaminated Groundwater Under Control" EI pertains ONLY to the physical migration (i.e., further spread) of contaminated ground water and contaminants within groundwater (e.g., non-aqueous phase liquids or NAPLs). Achieving this EI does not substitute for achieving other stabilization or final remedy requirements and expectations associated with sources of contamination and the need to restore, wherever practicable, contaminated groundwater to be suitable for its designated current and future uses.

### **Duration / Applicability of EI Determinations**

EI Determinations status codes should remain in RCRIS national database ONLY as long as they remain true (i.e., RCRIS status codes must be changed when the regulatory authorities become aware of contrary information).

**Migration of Contaminated Groundwater Under Control  
Environmental Indicator (EI) RCRIS code (CA750)**  
Page 2

2. Is **groundwater** known or reasonably suspected to be “**contaminated**”<sup>1</sup> above appropriately protective “levels” (i.e., applicable promulgated standards, as well as other appropriate standards, guidelines, guidance, or criteria) from releases subject to RCRA Corrective Action, anywhere at, or from, the facility?

- If yes - continue after identifying key contaminants, citing appropriate “levels,” and referencing supporting documentation.
- If no - skip to #8 and enter “YE” status code, after citing appropriate “levels,” and referencing supporting documentation to demonstrate that groundwater is not “contaminated.”
- If unknown - skip to #8 and enter “IN” status code.

Rationale and Reference(s):

*As discussed in Section 3.4.3 of the Draft RFI Report, groundwater at the Facility is found in three water-bearing units; S1 (shallow sand), which is locally continuous, S2 (deep sand) and B1 (shallow bedrock), which are regionally continuous. Groundwater in the S1 and S2 units is confined by overlying clay till, and groundwater in the B1 unit is confined by weathered bedrock and/or clay till. Groundwater flow in the S1 unit is generally to the southeast. Groundwater flow in the S2 and B1 units is to the southeast and northwest with the northwesterly component influenced by pumping at the municipal well field northwest of the Facility. Very localized water-bearing lenses also have been identified at the Facility above S1 (P1) and between S1 and S2 (I2). A sand unit (S3), which is hydraulically connected to the shallow bedrock, has been identified at certain locations at the Facility.*

*As discussed in Section 4 of the Draft RFI Report, the groundwater data collected during the RFI were compared with the drinking water criteria used to guide the RFI groundwater investigation. These same criteria are used in identifying “contaminated” groundwater for the purposes of this CA750 determination. The drinking water criteria are based on the following hierarchy: (1) Indiana maximum contaminant levels (MCLs), (2) Federal MCLs, and (3) Region 9 tap water ingestion values based on a target cancer risk of  $10^{-5}$  and a hazard quotient of 1. Table 1 (attached) summarizes the comparison of the most recent groundwater data at each AOI collected via low flow sampling, which best represent current conditions, for all detected constituents in each water bearing unit with the drinking water criteria. Table 2 (attached) presents the results for every concentration in the most recent groundwater data that exceed the drinking water criteria. The locations of the monitoring wells sampled during the RFI are shown on Drawing 24 (attached) of the Draft RFI Report. Databox Drawings 12 through 24 of the Draft RFI Report show the groundwater data collected during the RFI and highlight concentrations above the drinking water criteria. Drawings 12 through 23 are included in the Draft RFI Report. Drawing 24, which presents data from a selected list of chemicals for all groundwater monitoring points at the Facility is attached. Table 3 summarizes the constituents with concentrations that exceed the drinking water criteria in each water-bearing unit. This table also summarizes the maximum concentration of each constituent in the most recent groundwater data, the location*

Footnotes:

<sup>1</sup>“Contamination” and “contaminated” describes media containing contaminants (in any form, NAPL and/or dissolved, vapors, or solids, that are subject to RCRA) in concentrations in excess of appropriate “levels” (appropriate for the protection of the groundwater resource and its beneficial uses).

**Migration of Contaminated Groundwater Under Control  
Environmental Indicator (EI) RCRIS code (CA750)**

Page 3

where the maximum concentration was detected, and the date of the sample in which the maximum concentration was found.

As shown on Table 1 and consistent with the discussion in Section 4 of the Draft RFI Report, certain chlorinated volatile organic compounds (CVOCs) have been detected above drinking water criteria in one or more water-bearing units. Specifically, trichloroethene (TCE), cis- and trans-1,2-dichloroethene (DCE), 1,1-dichloroethene, and vinyl chloride have concentrations that exceed the drinking water criteria. Based on the RFI data, concentrations of CVOCs in P1, S1, I2, and S2 groundwater and concentrations of CVOCs in B1 groundwater east of the Facility (near MW-0608-B1) are considered site-related. Concentrations of CVOCs in B1 groundwater south and southwest of the Facility, which includes tetrachloroethene (PCE) and other CVOCs, are believed to be the result of former operations at neighboring facilities. Specifically, the highest concentrations of PCE and TCE in B1 groundwater were detected in well MW-0617-B1 which is located on the former Midwest Plating Superfund site. The table below presents the most recent concentration data collected via low flow sampling for TCE, PCE and cis-1,2-DCE in groundwater from the nested pairs of wells screened in both the S2 and B1 units at and around the Facility:

Nested Pair Identification	PCE (mg/L)	TCE (mg/L)	Cis-1,2-DCE (mg/L)
<b>On-Site</b>			
MW-0505-S2 / MW-0505-B1	< 0.005 / < 0.005	< 0.005 / < 0.005	< 0.005 / < 0.005
MW-0605-S2 / MW-0605-B1	< 0.005 / < 0.005	0.100 / < 0.005	< 0.005 / < 0.005
<b>Off-Site East</b>			
MW-0607-S2 / MW-0607-B1	< 0.005 / < 0.005	< 0.005 / < 0.005	< 0.005 / < 0.005
MW-0608-S2 / MW-0608-B1	< 0.005 / < 0.005	0.0122 / < 0.005	0.605 / 0.125
<b>Off-Site West</b>			
MW-0603-S2 / MW-0603-B1	< 0.005 / < 0.005	< 0.005 / < 0.005	0.293 / 0.545
MW-0614-S2 / MW-0614-B1	< 0.005 / < 0.005	< 0.005 / < 0.005	< 0.005 / 0.0175
<b>Former Midwest Plating</b>			
MW-0617-S2 / MW-0617-B1	0.0084 / 0.561	0.227 / 0.405	0.586 / 0.162

Based on the above data:

- PCE was not detected in any of the monitoring wells screened within the S1, S2, or B1 saturated units at or in the vicinity of the Facility, with the exception of well nest MW-0617.
- TCE was not detected in any of the monitoring wells screened within B1 with the exception of well MW-0617-B1.
- The highest concentrations of cis-1,2-DCE in the B1 unit have been detected at MW-0617-B1 and MW-0603-B1. These two wells are located west of MW-0608-B1, which is side-gradient with respect to groundwater flow (refer to attached Drawing 11 from the Draft RFI Report). Additionally, monitoring wells MW-0617-B1 and MW-0603-B1 are not directly downgradient of known sources of CVOCs in soil or groundwater at the Facility.

While it is not known how CVOCs reached the B1 unit beneath the Midwest Plating site, historic records indicate that two 10-inch wells were previously installed into the bedrock aquifer at the former Midwest Plating site. These wells may have facilitated migration of contaminants into the B1 groundwater. Based on the data discussed above, concentrations of CVOCs in B1 groundwater east of the Facility (near MW-0608-B1) are considered site-related. All other CVOCs in B1 groundwater (south and southwest of the Facility) are not considered site-related.

Two metals (arsenic and cadmium) were also detected at concentrations in groundwater that are

**Migration of Contaminated Groundwater Under Control  
Environmental Indicator (EI) RCRIS code (CA750)**

Page 4

*higher than the drinking water criteria. As shown on Table 2, arsenic concentrations exceeded the drinking water criterion in only one well (MW-0613-S1) which is located off-site and east of the Facility. No on-site concentrations of arsenic in groundwater exceeded the drinking water criterion. Therefore, the concentration of arsenic in MW-0613-S1 is not considered site-related. The concentration of cadmium in S2 groundwater exceeded the drinking water criterion in an unfiltered sample at only one location (MW-0622-S2) which is within AOI 3. The detected concentration (0.0058 mg/L) was slightly higher than the MCL for cadmium (0.005 mg/L). Cadmium was not detected during the most recent groundwater sampling in any of the other saturated units during the RFI. In addition, cadmium was not identified as a site-related contaminant in soil as part of the RFI. Given that the concentration of cadmium was only slightly higher than the drinking water criterion in only one well in the S2 unit and that cadmium was not identified as a contaminant in groundwater or the soil during the RFI, the concentration of cadmium in MW-0622-S2 is not considered site-related.*

*In summary, groundwater at the Facility is considered to meet the definition of "contaminated" based on the presence of CVOCs in P1, S1, I2, S2, and B1 (near MW-0608-B1) groundwater at concentrations higher than the drinking water criteria.*

## Migration of Contaminated Groundwater Under Control

### Environmental Indicator (EI) RCRIS code (CA750)

Page 5

3. Has the **migration** of contaminated groundwater **stabilized** (such that contaminated groundwater is expected to remain within “existing area of contaminated groundwater”<sup>2</sup> as defined by the monitoring locations designated at the time of this determination)?

If yes - continue, after presenting or referencing the physical evidence (e.g., groundwater sampling/measurement/migration barrier data) and rationale why contaminated groundwater is expected to remain within the (horizontal or vertical) dimensions of the “existing area of groundwater contamination”<sup>2</sup>).

If no (contaminated groundwater is observed or expected to migrate beyond the designated locations defining the “existing area of groundwater contamination”<sup>2</sup>) - skip to #8 and enter “NO” status code, after providing an explanation.

If unknown - skip to #8 and enter “IN” status code.

#### Rationale and Reference(s):

*As discussed in the Draft RFI Report, during the initial stages of the RFI the general direction of groundwater flow was observed to be south-southeast. During the later stages of the RFI the general direction of groundwater flow appeared to be influenced by pumping that began in January 2008 at a newly constructed public water supply well field located approximately 1.4 miles northwest of the Facility. To evaluate whether the well field northwest of the Facility was affecting the direction of groundwater flow, a detailed study of the groundwater potentiometric surface was performed in 2009 (included as Appendix E to the draft RFI Report). The results of the groundwater potentiometric surface study led to the conclusion that the well field northwest of the Facility was influencing the groundwater flow direction and horizontal gradient, particularly in the S2 and B1 units. The pumping at the northwest well field results in a northwest groundwater flow direction in the S2 and B1 units in the northern portion of the Facility. The potentiometric surfaces of groundwater in the S1, S2, and B1 units are shown in Drawings 9, 10, and 11, respectively, of the Draft RFI Report (attached).*

*As discussed in the Draft RFI Report, CVOCs are the most significant site-related groundwater contaminants. During the RFI, the extent of groundwater with concentrations of CVOCs above the drinking water criteria were defined to the southeast and northwest of the Facility by groundwater monitoring wells with concentrations that were either non-detect or below the drinking water criteria. These monitoring wells are within 400 ft of the Facility. As discussed in the Draft RFI Report, the groundwater concentrations over the drinking water criteria in B1 were delineated during the RFI even though it was determined that only concentrations of CVOCs near MW-0608-B1 are potentially site-related. The RFI groundwater monitoring data collected since 2005 indicate that site-related concentrations of CVOCs in groundwater are stable, as shown by the temporal data in databox Drawing 24 of the Draft RFI Report (attached). The RFI groundwater monitoring data have not shown that pumping at the well field northwest of the Facility has altered the shape or stability of the groundwater plumes. The existing monitoring well*

<sup>2</sup> “existing area of contaminated groundwater” is an area (with horizontal and vertical dimensions) that has been verifiably demonstrated to contain all relevant groundwater contamination for this determination, and is defined by designated (monitoring) locations proximate to the outer perimeter of “contamination” that can and will be sampled/tested in the future to physically verify that all “contaminated” groundwater remains within this area, and that the further migration of “contaminated” groundwater is not occurring. Reasonable allowances in the proximity of the monitoring locations are permissible to incorporate formal remedy decisions (i.e., including public participation) allowing a limited area for natural attenuation.

**Migration of Contaminated Groundwater Under Control  
Environmental Indicator (EI) RCRIS code (CA750)**

Page 6

*network defines the groundwater plumes in all directions. This network will also be sufficient to confirm that migration of CVOCs in groundwater is not occurring in any direction around the Facility. Drawings 27 and 29 of the Draft RFI Report (attached) show the defined extent of TCE and cis-1,2-DCE, respectively, based on the most recent groundwater data, and the location of monitoring wells used to define the plumes.*

**Migration of Contaminated Groundwater Under Control  
Environmental Indicator (EI) RCRIS code (CA750)**  
Page 7

4. Does “contaminated” groundwater **discharge** into **surface water** bodies?

If yes - continue after identifying potentially affected surface water bodies.

If no - skip to #7 (and enter a “YE” status code in #8, if #7 = yes) after providing an explanation and/or referencing documentation supporting that groundwater “contamination” does not enter surface water bodies.

If unknown - skip to #8 and enter “IN” status code.

Rationale and Reference(s):

*As discussed in Section 3 of the Draft RFI Report, there are no surface water bodies near the Facility. The nearest major surface water body is Wildcat Creek, located approximately 1.5 miles south of the Facility. The extent of the area of groundwater identified as “contaminated” has been defined by groundwater monitoring wells with concentrations that are either non-detect or below the drinking water criteria within 400 ft of the Facility.*

**Migration of Contaminated Groundwater Under Control  
Environmental Indicator (EI) RCRIS code (CA750)**  
Page 8

5. Is the **discharge** of “contaminated” groundwater into surface water likely to be “**insignificant**” (i.e., the maximum concentration<sup>3</sup> of each contaminant discharging into surface water is less than 10 times their appropriate groundwater “level,” and there are no other conditions (e.g., the nature, and number, of discharging contaminants, or environmental setting), which significantly increase the potential for unacceptable impacts to surface water, sediments, or eco-systems at these concentrations)?

- \_\_\_\_\_ If yes - skip to #7 (and enter “YE” status code in #8 if #7 = yes), after documenting: 1) the maximum known or reasonably suspected concentration<sup>3</sup> of key contaminants discharged above their groundwater “level,” the value of the appropriate “level(s),” and if there is evidence that the concentrations are increasing; and 2) provide a statement of professional judgement/explanation (or reference documentation) supporting that the discharge of groundwater contaminants into the surface water is not anticipated to have unacceptable impacts to the receiving surface water, sediments, or eco-system.
- \_\_\_\_\_ If no - (the discharge of “contaminated” groundwater into surface water is potentially significant) - continue after documenting: 1) the maximum known or reasonably suspected concentration<sup>3</sup> of each contaminant discharged above its groundwater “level,” the value of the appropriate “level(s),” and if there is evidence that the concentrations are increasing; and 2) for any contaminants discharging into surface water in concentrations<sup>3</sup> greater than 100 times their appropriate groundwater “levels,” the estimated total amount (mass in kg/yr) of each of these contaminants that are being discharged (loaded) into the surface water body (at the time of the determination), and identify if there is evidence that the amount of discharging contaminants is increasing.
- \_\_\_\_\_ If unknown - enter “IN” status code in #8.

Rationale and Reference(s):

<sup>3</sup> As measured in groundwater prior to entry to the groundwater-surface water/sediment interaction (e.g., hyporheic) zone.

**Migration of Contaminated Groundwater Under Control  
Environmental Indicator (EI) RCRIS code (CA750)**  
Page 9

6. Can the **discharge** of “contaminated” groundwater into surface water be shown to be “**currently acceptable**” (i.e., not cause impacts to surface water, sediments or eco-systems that should not be allowed to continue until a final remedy decision can be made and implemented<sup>4</sup>)?

- \_\_\_\_\_ If yes - continue after either: 1) identifying the Final Remedy decision incorporating these conditions, or other site-specific criteria (developed for the protection of the site’s surface water, sediments, and eco-systems), and referencing supporting documentation demonstrating that these criteria are not exceeded by the discharging groundwater; OR 2) providing or referencing an interim-assessment,<sup>5</sup> appropriate to the potential for impact, that shows the discharge of groundwater contaminants into the surface water is (in the opinion of a trained specialists, including ecologist) adequately protective of receiving surface water, sediments, and eco-systems, until such time when a full assessment and final remedy decision can be made. Factors which should be considered in the interim-assessment (where appropriate to help identify the impact associated with discharging groundwater) include: surface water body size, flow, use/classification/habitats and contaminant loading limits, other sources of surface water/sediment contamination, surface water and sediment sample results and comparisons to available and appropriate surface water and sediment “levels,” as well as any other factors, such as effects on ecological receptors (e.g., via bio-assays/benthic surveys or site-specific ecological Risk Assessments), that the overseeing regulatory agency would deem appropriate for making the EI determination.
- \_\_\_\_\_ If no - (the discharge of “contaminated” groundwater can not be shown to be “**currently acceptable**”) - skip to #8 and enter “NO” status code, after documenting the currently unacceptable impacts to the surface water body, sediments, and/or eco-systems.
- \_\_\_\_\_ If unknown - skip to 8 and enter “IN” status code.

Rationale and Reference(s):

<sup>4</sup> Note, because areas of inflowing groundwater can be critical habitats (e.g., nurseries or thermal refugia) for many species, appropriate specialist (e.g., ecologist) should be included in management decisions that could eliminate these areas by significantly altering or reversing groundwater flow pathways near surface water bodies.

<sup>5</sup> The understanding of the impacts of contaminated groundwater discharges into surface water bodies is a rapidly developing field and reviewers are encouraged to look to the latest guidance for the appropriate methods and scale of demonstration to be reasonably certain that discharges are not causing currently unacceptable impacts to the surface waters, sediments or eco-systems.

**Migration of Contaminated Groundwater Under Control**

**Environmental Indicator (EI) RCRIS code (CA750)**

Page 10

7. Will groundwater **monitoring** / measurement data (and surface water/sediment/ecological data, as necessary) be collected in the future to verify that contaminated groundwater has remained within the horizontal (or vertical, as necessary) dimensions of the “existing area of contaminated groundwater?”

X If yes - continue after providing or citing documentation for planned activities or future sampling/measurement events. Specifically identify the well/measurement locations which will be tested in the future to verify the expectation (identified in #3) that groundwater contamination will not be migrating horizontally (or vertically, as necessary) beyond the “existing area of groundwater contamination.”

\_\_\_\_\_ If no - enter “NO” status code in #8

\_\_\_\_\_ If unknown - enter “IN” status code in #8.

Rationale and Reference(s):

*See Next Page.*

**Migration of Contaminated Groundwater Under Control  
Environmental Indicator (EI) RCRIS code (CA750)**

Page 11

The following monitoring wells will be sampled and the samples analyzed for TCE, 1,1-DCE, cis-1,2-DCE, trans-1,2-DCE, and vinyl chloride to verify the stability of contaminated groundwater:

Unit S1 (7 wells)	Unit S2 (6 wells)	Unit B1 (4 wells)
MW-0501-S1	MW-0501-S2	MW-0505-B1
MW-0516-S1	MW-0603-S2	MW-0607-B1
MW-0603-S1	MW-0607-S2	MW-0615-B1
MW-0607-S1	MW-0609-S2	MW-0703-B1
MW-0610-S1	MW-0614-S2	
MW-0613-S1	MW-0622-S2	
MW-0623-S1		

In addition, groundwater elevations will be measured at the following monitoring wells to verify groundwater flow direction:

Unit S1 (20 wells)	Unit S2 (12 wells)	Unit B1 (12 wells)
MW-0501-S1	MW-0501-S2	MW-0501-S3U
MW-0502-S1	MW-0505-S2	MW-0505-B1
MW-0503-S1	MW-0603-S2	MW-0602-B1
MW-0507-S1	MW-0604-S2	MW-0603-B1
MW-0509-S1	MW-0605-S2	MW-0605-B1
MW-0516-S1	MW-0606-S2	MW-0607-B1
MW-0602-S1	MW-0607-S2	MW-0608-B1
MW-0603-S1	MW-0608-S2	MW-0614-B1
MW-0607-S1	MW-0609-S2	MW-0615-B1
MW-0608-S1	MW-0614-S2	MW-0616-B1
MW-0609-S1	MW-0616-S2	MW-0702-B1
MW-0610-S1	MW-0622-S2	MW-0703-B1
MW-0611-S1		
MW-0613-S1		
MW-0616-S1		
MW-0618-S1		
MW-0620-S1		
MW-0621-S1		
MW-0623-S1		
MW-0704-S1		

The locations of these wells are shown on Drawing 1. These wells will be sampled and/or gauged semi-annually during the initial year of monitoring to verify this CA750 determination. After the first year of semi-annual monitoring, the monitoring locations and frequencies will be re-evaluated with USEPA to determine if modifications to the plan would be appropriate for the purposes of this CA750 determination.

**Migration of Contaminated Groundwater Under Control  
Environmental Indicator (EI) RCRIS code (CA750)**  
Page 12

8. Check the appropriate RCRIS status codes for the Migration of Contaminated Groundwater Under Control EI (event code CA750), and obtain Supervisor (or appropriate Manager) signature and date on the EI determination below (attach appropriate supporting documentation as well as a map of the facility).

YE YE - Yes, "Migration of Contaminated Groundwater Under Control" has been verified. Based on a review of the information contained in this EI determination, it has been determined that the "Migration of Contaminated Groundwater" is "Under Control" at the Former GM Delco Plant 5 site, EPA ID # IND 000 806 844, located at 1723 North Washington Street in Kokomo, Indiana. Specifically, this determination indicates that the migration of "contaminated" groundwater is under control, and that monitoring will be conducted to confirm that contaminated groundwater remains within the "existing area of contaminated groundwater". This determination will be re-evaluated when the Agency becomes aware of significant changes at the facility.

       NO - Unacceptable migration of contaminated groundwater is observed or expected.

       IN - More information is needed to make a determination.

Completed by \_\_\_\_\_ Date \_\_\_\_\_  
(signature)  
(print)  
(title)

Supervisor \_\_\_\_\_ Date \_\_\_\_\_  
(signature)  
(print)  
(title)  
(EPA Region or State)

Locations where References may be found:

*USEPA Region 5 has the following documents, which support the CA750 documentation:*

- *Draft RCRA Facility Investigation Report, Former GM Delco Plant 5, Kokomo, IN (ARCADIS 2009)*

Contact telephone and e-mail numbers

(name) \_\_\_\_\_  
(phone #) \_\_\_\_\_  
(e-mail) \_\_\_\_\_

## TABLES

- Table 1: Groundwater Screening Results Summary
- Table 2: Groundwater Results Exceeding Drinking Water Criteria
- Table 3: Summary of Chemicals Exceeding Drinking Water Criteria

## D R A W I N G S

- Drawing 1: EI CA750 Monitoring and Gauging Locations  
Drawing 9 (from Draft RFI Report): S1 Potentiometric Surface Maps  
Drawing 10 (from Draft RFI Report): S2 Potentiometric Surface Maps  
Drawing 11 (from Draft RFI Report): B1 Potentiometric Surface Maps  
Drawing 24 (from Draft RFI Report): Select Groundwater/Borehole Water Organic Results – Site-Wide  
Drawing 27 (from Draft RFI Report): TCE Groundwater Concentration Contours  
Drawing 29 (from Draft RFI Report): Cis-1,2-DCE Groundwater Concentration Contours

**Table 1: Groundwater Screening Results Summary  
Former Delco Plant 5, Kokomo, Indiana**

Area	Wellzone	Chem Group	Chemical	CASRN	Meas Basis	Analyzed	Detected	Min Detected (mg/L)	Max Detected (mg/L)	Drinking Water Criteria (mg/L)	Ratio of Max Detect to Drinking Water Criteria
AOI 2	S1	VOC	cis-1,2-Dichloroethene	156-59-2	T	1	1	2.64E-01	2.64E-01	7.0E-02	SM <b>3.8E+00</b>
AOI 2	S1	VOC	Vinyl Chloride	75-01-4	T	1	1	3.90E-03	3.90E-03	2.0E-03	SM <b>2.0E+00</b>
AOI 3	S1	VOC	cis-1,2-Dichloroethene	156-59-2	T	7	6	2.60E-02	3.47E-01	7.0E-02	SM <b>5.0E+00</b>
AOI 3	S1	VOC	Trichloroethene	79-01-6	T	7	6	1.40E+00	5.94E+00	5.0E-03	SM <b>1.2E+03</b>
AOI 3	S1	VOC	Vinyl Chloride	75-01-4	T	7	2	4.90E-03	5.00E-03	2.0E-03	SM <b>2.5E+00</b>
AOI 3	S2	VOC	cis-1,2-Dichloroethene	156-59-2	T	2	1	1.00E-01	1.00E-01	7.0E-02	SM <b>1.4E+00</b>
AOI 3	S2	INORG	Cadmium	7440-43-9	T	1	1	5.80E-03	5.80E-03	5.0E-03	SM <b>1.2E+00</b>
AOI 5	I2	VOC	Trichloroethene	79-01-6	T	2	1	6.00E-03	6.00E-03	5.0E-03	SM <b>1.2E+00</b>
AOI 5	S1	VOC	1,1-Dichloroethene	75-35-4	T	7	5	2.70E-03	9.40E-03	7.0E-03	SM <b>1.3E+00</b>
AOI 5	S1	VOC	cis-1,2-Dichloroethene	156-59-2	T	7	6	1.80E-02	1.10E+00	7.0E-02	SM <b>1.6E+01</b>
AOI 5	S1	VOC	Trichloroethene	79-01-6	T	7	6	1.80E-01	7.70E+00	5.0E-03	SM <b>1.5E+03</b>
AOI 5	S1	VOC	Vinyl Chloride	75-01-4	T	7	5	1.70E-02	1.00E-01	2.0E-03	SM <b>5.0E+01</b>
AOI 5	S2	VOC	cis-1,2-Dichloroethene	156-59-2	T	3	3	8.40E-03	3.00E-01	7.0E-02	SM <b>4.3E+00</b>
AOI 5	S2	VOC	Trichloroethene	79-01-6	T	3	1	1.00E-01	1.00E-01	5.0E-03	SM <b>2.0E+01</b>
AOI 6	S1	VOC	cis-1,2-Dichloroethene	156-59-2	T	2	2	1.39E-02	3.10E-01	7.0E-02	SM <b>4.4E+00</b>
AOI 6	S1	VOC	Trichloroethene	79-01-6	T	2	2	7.20E-03	5.20E-02	5.0E-03	SM <b>1.0E+01</b>
AOI 6	S2	VOC	cis-1,2-Dichloroethene	156-59-2	T	1	1	6.34E-01	6.34E-01	7.0E-02	SM <b>9.1E+00</b>
AOI 6	S2	VOC	Trichloroethene	79-01-6	T	1	1	4.45E-01	4.45E-01	5.0E-03	SM <b>8.9E+01</b>
AOI 6	S2	VOC	Vinyl Chloride	75-01-4	T	1	1	3.10E-03	3.10E-03	2.0E-03	SM <b>1.6E+00</b>
AOI 7	S1	VOC	cis-1,2-Dichloroethene	156-59-2	T	3	2	7.90E-03	1.00E+00	7.0E-02	SM <b>1.4E+01</b>
AOI 7	S1	VOC	Trichloroethene	79-01-6	T	3	1	4.80E+00	4.80E+00	5.0E-03	SM <b>9.6E+02</b>
AOI 7	S1	VOC	Vinyl Chloride	75-01-4	T	3	1	2.10E-02	2.10E-02	2.0E-03	SM <b>1.1E+01</b>
Upgradient	P1	VOC	Vinyl Chloride	75-01-4	T	1	1	6.80E-03	6.80E-03	2.0E-03	SM <b>3.4E+00</b>
Off-Site East	B1	VOC	cis-1,2-Dichloroethene	156-59-2	T	5	3	8.37E-02	1.69E-01	7.0E-02	SM <b>2.4E+00</b>
Off-Site East	B1	VOC	trans-1,2-Dichloroethene	156-60-5	T	5	3	6.90E-03	1.88E-01	1.0E-01	SM <b>1.9E+00</b>
Off-Site East	B1	VOC	Trichloroethene	79-01-6	T	5	1	6.60E-03	6.60E-03	5.0E-03	SM <b>1.3E+00</b>
Off-Site East	B1	VOC	Vinyl Chloride	75-01-4	T	5	1	3.20E-03	3.20E-03	2.0E-03	SM <b>1.6E+00</b>
Off-Site East	S1	VOC	cis-1,2-Dichloroethene	156-59-2	T	14	9	1.91E-02	5.71E-01	7.0E-02	SM <b>8.2E+00</b>
Off-Site East	S1	VOC	Trichloroethene	79-01-6	T	14	7	6.94E-02	4.37E+00	5.0E-03	SM <b>8.7E+02</b>
Off-Site East	S1	VOC	Vinyl Chloride	75-01-4	T	14	7	1.00E-03	5.60E-03	2.0E-03	SM <b>2.8E+00</b>
Off-Site East	S1	INORG	Arsenic	7440-38-2	T	4	1	1.12E-02	1.12E-02	1.0E-02	SM <b>1.1E+00</b>
Off-Site East	S2	VOC	cis-1,2-Dichloroethene	156-59-2	T	7	6	2.22E-02	1.44E+00	7.0E-02	SM <b>2.1E+01</b>
Off-Site East	S2	VOC	trans-1,2-Dichloroethene	156-60-5	T	7	5	5.09E-02	1.99E-01	1.0E-01	SM <b>2.0E+00</b>
Off-Site East	S2	VOC	Trichloroethene	79-01-6	T	7	5	1.22E-02	3.90E-01	5.0E-03	SM <b>7.8E+01</b>
Off-Site East	S2	VOC	Vinyl Chloride	75-01-4	T	7	2	2.50E-03	2.60E-03	2.0E-03	SM <b>1.3E+00</b>
Off-Site West	B1	VOC	cis-1,2-Dichloroethene	156-59-2	T	6	3	1.75E-02	5.57E-01	7.0E-02	SM <b>8.0E+00</b>
Off-Site West	B1	VOC	Vinyl Chloride	75-01-4	T	6	1	3.60E-03	3.60E-03	2.0E-03	SM <b>1.8E+00</b>
Off-Site West	S1	VOC	cis-1,2-Dichloroethene	156-59-2	T	4	1	2.26E-01	2.26E-01	7.0E-02	SM <b>3.2E+00</b>
Off-Site West	S1	VOC	Vinyl Chloride	75-01-4	T	4	1	1.03E-02	1.03E-02	2.0E-03	SM <b>5.2E+00</b>

**Table 1: Groundwater Screening Results Summary  
Former Delco Plant 5, Kokomo, Indiana**

Area	Wellzone	Chem Group	Chemical	CASRN	Meas Basis	Analyzed	Detected	Min Detected (mg/L)	Max Detected (mg/L)	Drinking Water Criteria (mg/L)	Ratio of Max Detect to Drinking Water Criteria
Off-Site West	S2	VOC	cis-1,2-Dichloroethene	156-59-2	T	3	1	2.93E-01	2.93E-01	7.0E-02	SM
<b>Notes:</b>											
Only constituents detected in during the most recent groundwater sampling in each area are shown.											
The drinking water criteria are based on the following hierarchy: State MCL, Federal MCL, risk-based equivalent drinking water limits at a target cancer risk of 1E-5 or target hazard quotient of 1.											
The criteria for Chromium (total) are the criteria provided by the agency for Chromium VI.											
Ratios of concentrations to criteria greater than 1 are shaded in bold.											
SM - The criterion is the State MCL.											
NC - The criterion is based on noncancer effects at the indicated hazard quotient.											
Chem Group - chemical group											
Meas Basis - measured basis; T = total, D = dissolved											

**Table 2: Groundwater Results Exceeding Drinking Water Criteria  
Former Delco Plant 5, Kokomo, Indiana**

Area	Wellzone	Location	Sample ID	Sample Type	Sample Date	Chem Group	Chemical	CASRN	Meas Basis	Conc (mg/L)	Drinking Water Criteria (mg/L)	Ratio of Conc to Drinking Water Criteria
Off-Site East	B1	MW-0602-B1	MW-0602-B1(062609)	N	06/26/09	VOC	cis-1,2-Dichloroethene	156-59-2	T	8.37E-02	7.0E-02	1.2E+00
Off-Site East	B1	MW-0608-B1	MW-0608-B1(062509)-LF	N	06/25/09	VOC	cis-1,2-Dichloroethene	156-59-2	T	1.25E-01	7.0E-02	1.8E+00
Off-Site East	B1	MW-0608-B1	MW-0608-B1(062509)-PDB	N	06/25/09	VOC	cis-1,2-Dichloroethene	156-59-2	T	1.69E-01	7.0E-02	2.4E+00
Off-Site East	B1	MW-0608-B1	MW-0608-B1(062509)-LF	N	06/25/09	VOC	trans-1,2-Dichloroethene	156-60-5	T	1.23E-01	1.0E-01	1.2E+00
Off-Site East	B1	MW-0608-B1	MW-0608-B1(062509)-PDB	N	06/25/09	VOC	trans-1,2-Dichloroethene	156-60-5	T	1.88E-01	1.0E-01	1.9E+00
Off-Site East	B1	MW-0608-B1	MW-0608-B1(062509)-PDB	N	06/25/09	VOC	Trichloroethene	79-01-6	T	6.60E-03	5.0E-03	1.3E+00
Off-Site East	B1	MW-0608-B1	MW-0608-B1(062509)-PDB	N	06/25/09	VOC	Vinyl Chloride	75-01-4	T	3.20E-03	2.0E-03	1.6E+00
Off-Site East	S1	MW-0606-S1	MW-0606-S1(110606)	N	11/06/06	VOC	cis-1,2-Dichloroethene	156-59-2	T	2.10E-01	7.0E-02	3.0E+00
Off-Site East	S1	MW-0606-S1	MW-0606-S1(110606)	N	11/06/06	VOC	Trichloroethene	79-01-6	T	7.70E-01	5.0E-03	1.5E+02
Off-Site East	S1	MW-0608-S1	MW-0608-S1(062609)	N	06/26/09	VOC	Vinyl Chloride	75-01-4	T	4.90E-03	2.0E-03	2.5E+00
Off-Site East	S1	MW-0609-S1	FD-1-PS(062609)	FD	06/26/09	VOC	cis-1,2-Dichloroethene	156-59-2	T	2.25E-01	7.0E-02	3.2E+00
Off-Site East	S1	MW-0609-S1	MW-0609-S1(062609)	N	06/26/09	VOC	cis-1,2-Dichloroethene	156-59-2	T	2.26E-01	7.0E-02	3.2E+00
Off-Site East	S1	MW-0609-S1	FD-1-PS(062609)	FD	06/26/09	VOC	Trichloroethene	79-01-6	T	6.94E-02	5.0E-03	1.4E+01
Off-Site East	S1	MW-0609-S1	MW-0609-S1(062609)	N	06/26/09	VOC	Trichloroethene	79-01-6	T	6.99E-02	5.0E-03	1.4E+01
Off-Site East	S1	MW-0609-S1	FD-1-PS(062609)	FD	06/26/09	VOC	Vinyl Chloride	75-01-4	T	3.70E-03	2.0E-03	1.9E+00
Off-Site East	S1	MW-0609-S1	MW-0609-S1(062609)	N	06/26/09	VOC	Vinyl Chloride	75-01-4	T	3.60E-03	2.0E-03	1.8E+00
Off-Site East	S1	MW-0612-S1	MW-0612-S1(062509)	N	06/25/09	VOC	cis-1,2-Dichloroethene	156-59-2	T	2.07E-01	7.0E-02	3.0E+00
Off-Site East	S1	MW-0612-S1	MW-0612-S1(062509)	N	06/25/09	VOC	Trichloroethene	79-01-6	T	4.37E+00	5.0E-03	8.7E+02
Off-Site East	S1	MW-0613-S1	MW-0613-S1(111208)	N	11/12/08	INORG	Arsenic	7440-38-2	T	1.12E-02	1.0E-02	1.1E+00
Off-Site East	S1	MW-0704-S1	MW-0704-S1(062509)	N	06/25/09	VOC	cis-1,2-Dichloroethene	156-59-2	T	5.71E-01	7.0E-02	8.2E+00
Off-Site East	S1	MW-0704-S1	MW-0704-S1(062509)	N	06/25/09	VOC	Trichloroethene	79-01-6	T	1.20E+00	5.0E-03	2.4E+02
Off-Site East	S1	MW-0704-S1	MW-0704-S1(062509)	N	06/25/09	VOC	Vinyl Chloride	75-01-4	T	5.60E-03	2.0E-03	2.8E+00
Off-Site East	S1	MW-0705-S1	MW-0705-S1(062609)-LF	N	06/26/09	VOC	Trichloroethene	79-01-6	T	1.78E-01	5.0E-03	3.6E+01
Off-Site East	S1	MW-0705-S1	MW-0705-S1(062609)-PDB	N	06/26/09	VOC	Trichloroethene	79-01-6	T	8.63E-02	5.0E-03	1.7E+01
Off-Site East	S1	MW-0705-S1	MW-0705-S1(062609)-PDB	N	06/26/09	VOC	Vinyl Chloride	75-01-4	T	4.80E-03	2.0E-03	2.4E+00
Off-Site East	S1	MW-0705-S1	MW-0705-S1(062609)-LF	N	06/26/09	VOC	Vinyl Chloride	75-01-4	T	5.10E-03	2.0E-03	2.6E+00
Off-Site East	S2	MW-0606-S2	MW-0606-S2(062609)	N	06/26/09	VOC	cis-1,2-Dichloroethene	156-59-2	T	2.45E-01	7.0E-02	3.5E+00
Off-Site East	S2	MW-0606-S2	MW-0606-S2(062609)	N	06/26/09	VOC	Trichloroethene	79-01-6	T	3.90E-01	5.0E-03	7.8E+01
Off-Site East	S2	MW-0608-S2	FD-2-PS(062609)	FD	06/26/09	VOC	cis-1,2-Dichloroethene	156-59-2	T	6.35E-01	7.0E-02	9.1E+00
Off-Site East	S2	MW-0608-S2	MW-0608-S2(062609)	N	06/26/09	VOC	cis-1,2-Dichloroethene	156-59-2	T	6.05E-01	7.0E-02	8.6E+00
Off-Site East	S2	MW-0608-S2	FD-2-PS(062609)	FD	06/26/09	VOC	trans-1,2-Dichloroethene	156-60-5	T	1.09E-01	1.0E-01	1.1E+00
Off-Site East	S2	MW-0608-S2	MW-0608-S2(062609)	N	06/26/09	VOC	trans-1,2-Dichloroethene	156-60-5	T	1.13E-01	1.0E-01	1.1E+00
Off-Site East	S2	MW-0608-S2	FD-2-PS(062609)	FD	06/26/09	VOC	Trichloroethene	79-01-6	T	1.24E-02	5.0E-03	2.5E+00
Off-Site East	S2	MW-0608-S2	MW-0608-S2(062609)	N	06/26/09	VOC	Trichloroethene	79-01-6	T	1.22E-02	5.0E-03	2.4E+00
Off-Site East	S2	MW-0608-S2	FD-2-PS(062609)	FD	06/26/09	VOC	Vinyl Chloride	75-01-4	T	2.50E-03	2.0E-03	1.3E+00
Off-Site East	S2	MW-0608-S2	MW-0608-S2(062609)	N	06/26/09	VOC	Vinyl Chloride	75-01-4	T	2.60E-03	2.0E-03	1.3E+00
Off-Site East	S2	MW-0612-S2	MW-0612-S2(062509)-PDB	N	06/25/09	VOC	cis-1,2-Dichloroethene	156-59-2	T	1.36E+00	7.0E-02	1.9E+01
Off-Site East	S2	MW-0612-S2	MW-0612-S2(062509)-LF	N	06/25/09	VOC	cis-1,2-Dichloroethene	156-59-2	T	1.44E+00	7.0E-02	2.1E+01
Off-Site East	S2	MW-0612-S2	MW-0612-S2(062509)-PDB	N	06/25/09	VOC	trans-1,2-Dichloroethene	156-60-5	T	1.83E-01	1.0E-01	1.8E+00
Off-Site East	S2	MW-0612-S2	MW-0612-S2(062509)-LF	N	06/25/09	VOC	trans-1,2-Dichloroethene	156-60-5	T	1.99E-01	1.0E-01	2.0E+00
Off-Site East	S2	MW-0612-S2	MW-0612-S2(062509)-LF	N	06/25/09	VOC	Trichloroethene	79-01-6	T	3.53E-01	5.0E-03	7.1E+01
Off-Site East	S2	MW-0612-S2	MW-0612-S2(062509)-PDB	N	06/25/09	VOC	Trichloroethene	79-01-6	T	2.68E-01	5.0E-03	5.4E+01
Off-Site West	B1	MW-0603-B1	MW-0603-B1(062509)-LF	N	06/25/09	VOC	cis-1,2-Dichloroethene	156-59-2	T	5.45E-01	7.0E-02	7.8E+00
Off-Site West	B1	MW-0603-B1	MW-0603-B1(062509)-PDB	N	06/25/09	VOC	cis-1,2-Dichloroethene	156-59-2	T	5.57E-01	7.0E-02	8.0E+00
Off-Site West	B1	MW-0603-B1	MW-0603-B1(062509)-PDB	N	06/25/09	VOC	Vinyl Chloride	75-01-4	T	3.60E-03	2.0E-03	1.8E+00
Off-Site West	S1	MW-0616-S1	MW-0616-S1(111408)	N	11/14/08	VOC	cis-1,2-Dichloroethene	156-59-2	T	2.26E-01	7.0E-02	3.2E+00

**Table 2: Groundwater Results Exceeding Drinking Water Criteria  
Former Delco Plant 5, Kokomo, Indiana**

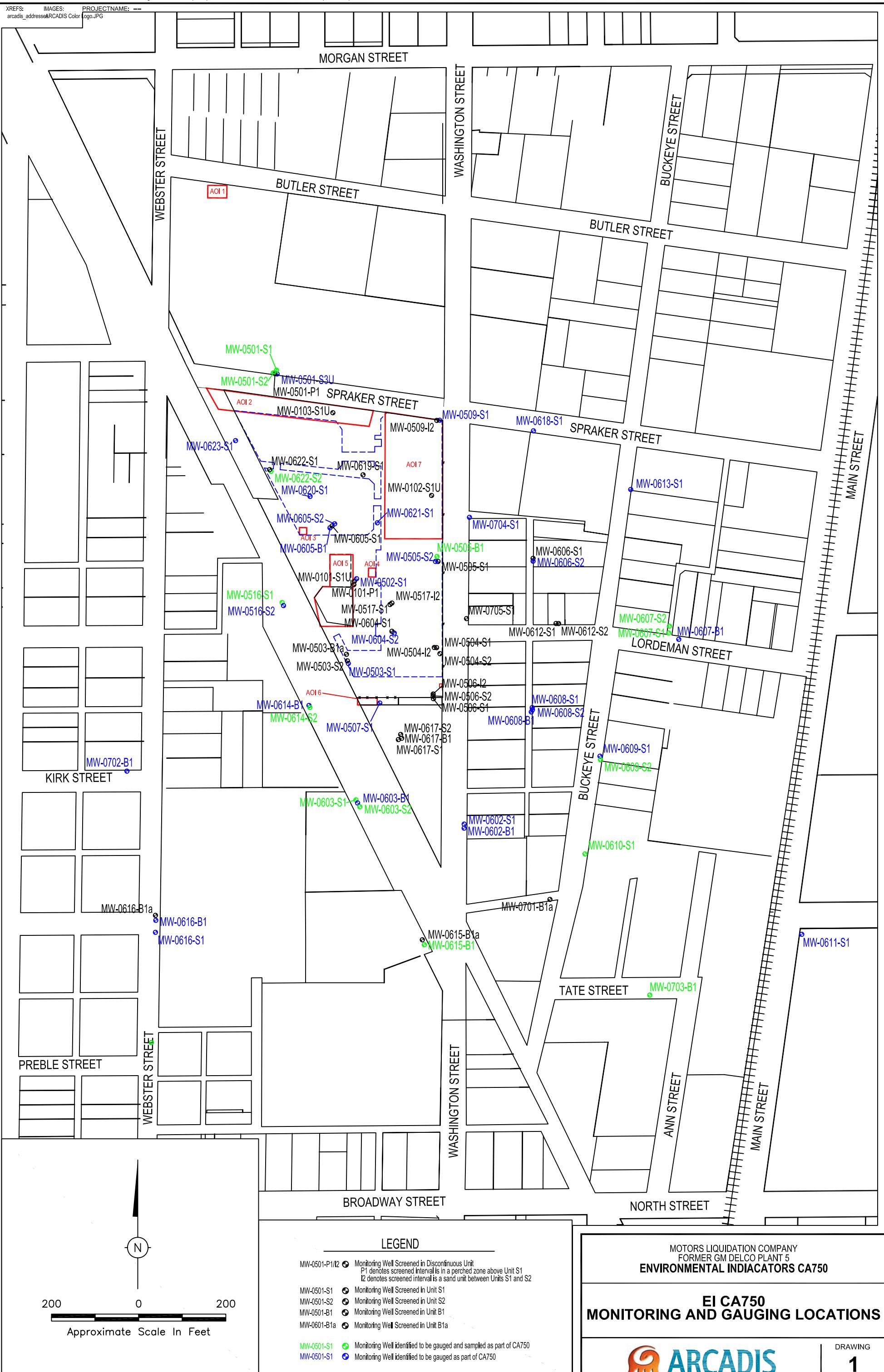
Area	Wellzone	Location	Sample ID	Sample Type	Sample Date	Chem Group	Chemical	CASRN	Meas Basis	Conc (mg/L)	Drinking Water Criteria (mg/L)	Ratio of Conc to Drinking Water Criteria
Off-Site West	S1	MW-0616-S1	MW-0616-S1(111408)	N	11/14/08	VOC	Vinyl Chloride	75-01-4	T	1.03E-02	2.0E-03	5.2E+00
Off-Site West	S2	MW-0603-S2	MW-0603-S2(062509)	N	06/25/09	VOC	cis-1,2-Dichloroethene	156-59-2	T	2.93E-01	7.0E-02	4.2E+00
AOI 2	S1	MW-0103-S1U	MW-0103-S1U(062409)	N	06/24/09	VOC	cis-1,2-Dichloroethene	156-59-2	T	2.64E-01	7.0E-02	3.8E+00
AOI 2	S1	MW-0103-S1U	MW-0103-S1U(062409)	N	06/24/09	VOC	Vinyl Chloride	75-01-4	T	3.90E-03	2.0E-03	2.0E+00
AOI 3	S1	MW-0605-S1	MW-0605-S1(110906)	N	11/09/06	VOC	Trichloroethene	79-01-6	T	1.40E+00	5.0E-03	2.8E+02
AOI 3	S1	MW-0619-S1	FD-2-TK(111408)	FD	11/14/08	VOC	cis-1,2-Dichloroethene	156-59-2	T	3.47E-01	7.0E-02	5.0E+00
AOI 3	S1	MW-0619-S1	MW-0619-S1(111408)	N	11/14/08	VOC	cis-1,2-Dichloroethene	156-59-2	T	3.45E-01	7.0E-02	4.9E+00
AOI 3	S1	MW-0619-S1	FD-2-TK(111408)	FD	11/14/08	VOC	Trichloroethene	79-01-6	T	3.14E+00	5.0E-03	6.3E+02
AOI 3	S1	MW-0619-S1	MW-0619-S1(111408)	N	11/14/08	VOC	Trichloroethene	79-01-6	T	3.20E+00	5.0E-03	6.4E+02
AOI 3	S1	MW-0619-S1	FD-2-TK(111408)	FD	11/14/08	VOC	Vinyl Chloride	75-01-4	T	5.00E-03	2.0E-03	2.5E+00
AOI 3	S1	MW-0619-S1	MW-0619-S1(111408)	N	11/14/08	VOC	Vinyl Chloride	75-01-4	T	4.90E-03	2.0E-03	2.5E+00
AOI 3	S1	MW-0620-S1	MW-0620-S1(111408)	N	11/14/08	VOC	cis-1,2-Dichloroethene	156-59-2	T	7.50E-02	7.0E-02	1.1E+00
AOI 3	S1	MW-0620-S1	MW-0620-S1(111408)	N	11/14/08	VOC	Trichloroethene	79-01-6	T	5.94E+00	5.0E-03	1.2E+03
AOI 3	S1	MW-0621-S1	MW-0621-S1(111408)	N	11/14/08	VOC	cis-1,2-Dichloroethene	156-59-2	T	1.19E-01	7.0E-02	1.7E+00
AOI 3	S1	MW-0621-S1	MW-0621-S1(111408)	N	11/14/08	VOC	Trichloroethene	79-01-6	T	3.11E+00	5.0E-03	6.2E+02
AOI 3	S1	MW-0622-S1	MW-0622-S1(111408)	N	11/14/08	VOC	cis-1,2-Dichloroethene	156-59-2	T	2.48E-01	7.0E-02	3.5E+00
AOI 3	S1	MW-0622-S1	MW-0622-S1(111408)	N	11/14/08	VOC	Trichloroethene	79-01-6	T	2.51E+00	5.0E-03	5.0E+02
AOI 3	S2	MW-0605-S2	MW-0605-S2(110906)	N	11/09/06	VOC	cis-1,2-Dichloroethene	156-59-2	T	1.00E-01	7.0E-02	1.4E+00
AOI 3	S2	MW-0622-S2	MW-0622-S2(111308)	N	11/13/08	INORG	Cadmium	7440-43-9	T	5.80E-03	5.0E-03	1.2E+00
AOI 5	I2	MW-0504-I2	MW-0504-I2(032706)	N	03/27/06	VOC	Trichloroethene	79-01-6	T	6.00E-03	5.0E-03	1.2E+00
AOI 5	S1	MW-0101-S1U	FD-1(111006)-BDS	FD	11/10/06	VOC	1,1-Dichloroethene	75-35-4	T	9.30E-03	7.0E-03	1.3E+00
AOI 5	S1	MW-0101-S1U	MW-0101-S1U(111006)	N	11/10/06	VOC	1,1-Dichloroethene	75-35-4	T	9.40E-03	7.0E-03	1.3E+00
AOI 5	S1	MW-0101-S1U	FD-1(111006)-BDS	FD	11/10/06	VOC	cis-1,2-Dichloroethene	156-59-2	T	1.10E+00	7.0E-02	1.6E+01
AOI 5	S1	MW-0101-S1U	MW-0101-S1U(111006)	N	11/10/06	VOC	cis-1,2-Dichloroethene	156-59-2	T	1.10E+00	7.0E-02	1.6E+01
AOI 5	S1	MW-0101-S1U	FD-1(111006)-BDS	FD	11/10/06	VOC	Trichloroethene	79-01-6	T	7.50E+00	5.0E-03	1.5E+03
AOI 5	S1	MW-0101-S1U	MW-0101-S1U(111006)	N	11/10/06	VOC	Trichloroethene	79-01-6	T	7.70E+00	5.0E-03	1.5E+03
AOI 5	S1	MW-0101-S1U	FD-1(111006)-BDS	FD	11/10/06	VOC	Vinyl Chloride	75-01-4	T	1.00E-01	2.0E-03	5.0E+01
AOI 5	S1	MW-0101-S1U	MW-0101-S1U(111006)	N	11/10/06	VOC	Vinyl Chloride	75-01-4	T	1.00E-01	2.0E-03	5.0E+01
AOI 5	S1	MW-0502-S1	MW-0502-S1(111006)	N	11/10/06	VOC	Trichloroethene	79-01-6	T	1.80E-01	5.0E-03	3.6E+01
AOI 5	S1	MW-0504-S1	MW-0504-S1(112006)	N	11/20/06	VOC	cis-1,2-Dichloroethene	156-59-2	T	7.00E-01	7.0E-02	1.0E+01
AOI 5	S1	MW-0504-S1	MW-0504-S1(112006)	N	11/20/06	VOC	Trichloroethene	79-01-6	T	1.40E+00	5.0E-03	2.8E+02
AOI 5	S1	MW-0504-S1	MW-0504-S1(112006)	N	11/20/06	VOC	Vinyl Chloride	75-01-4	T	1.70E-02	2.0E-03	8.5E+00
AOI 5	S1	MW-0517-S1	MW-0517-S1(032206)	N	03/22/06	VOC	cis-1,2-Dichloroethene	156-59-2	T	9.00E-01	7.0E-02	1.3E+01
AOI 5	S1	MW-0517-S1	MW-0517-S1(032206)	N	03/22/06	VOC	Trichloroethene	79-01-6	T	1.80E+00	5.0E-03	3.6E+02
AOI 5	S1	MW-0517-S1	MW-0517-S1(032206)	N	03/22/06	VOC	Vinyl Chloride	75-01-4	T	3.00E-02	2.0E-03	1.5E+01
AOI 5	S1	MW-0604-S1	MW-0604-S1(110806)	N	11/08/06	VOC	cis-1,2-Dichloroethene	156-59-2	T	6.00E-01	7.0E-02	8.6E+00
AOI 5	S1	MW-0604-S1	MW-0604-S1(110806)	N	11/08/06	VOC	Trichloroethene	79-01-6	T	2.70E+00	5.0E-03	5.4E+02
AOI 5	S1	MW-0604-S1	MW-0604-S1(110806)	N	11/08/06	VOC	Vinyl Chloride	75-01-4	T	3.10E-02	2.0E-03	1.6E+01
AOI 5	S2	MW-0504-S2	MW-0504-S2(110706)	N	11/07/06	VOC	cis-1,2-Dichloroethene	156-59-2	T	3.00E-01	7.0E-02	4.3E+00
AOI 5	S2	MW-0504-S2	MW-0504-S2(110706)	N	11/07/06	VOC	Trichloroethene	79-01-6	T	1.00E-01	5.0E-03	2.0E+01
AOI 5	S2	MW-0604-S2	MW-0604-S2(062409)	N	06/24/09	VOC	cis-1,2-Dichloroethene	156-59-2	T	9.46E-02	7.0E-02	1.4E+00
AOI 6	S1	MW-0506-S1	MW-0506-S1(062409)	N	06/24/09	VOC	Trichloroethene	79-01-6	T	7.20E-03	5.0E-03	1.4E+00
AOI 6	S1	MW-0507-S1	MW-0507-S1(032706)	N	03/27/06	VOC	cis-1,2-Dichloroethene	156-59-2	T	3.10E-01	7.0E-02	4.4E+00
AOI 6	S1	MW-0507-S1	MW-0507-S1(032706)	N	03/27/06	VOC	Trichloroethene	79-01-6	T	5.20E-02	5.0E-03	1.0E+01
AOI 6	S2	MW-0506-S2	MW-0506-S2(062409)	N	06/24/09	VOC	cis-1,2-Dichloroethene	156-59-2	T	6.34E-01	7.0E-02	9.1E+00
AOI 6	S2	MW-0506-S2	MW-0506-S2(062409)	N	06/24/09	VOC	Trichloroethene	79-01-6	T	4.45E-01	5.0E-03	8.9E+01

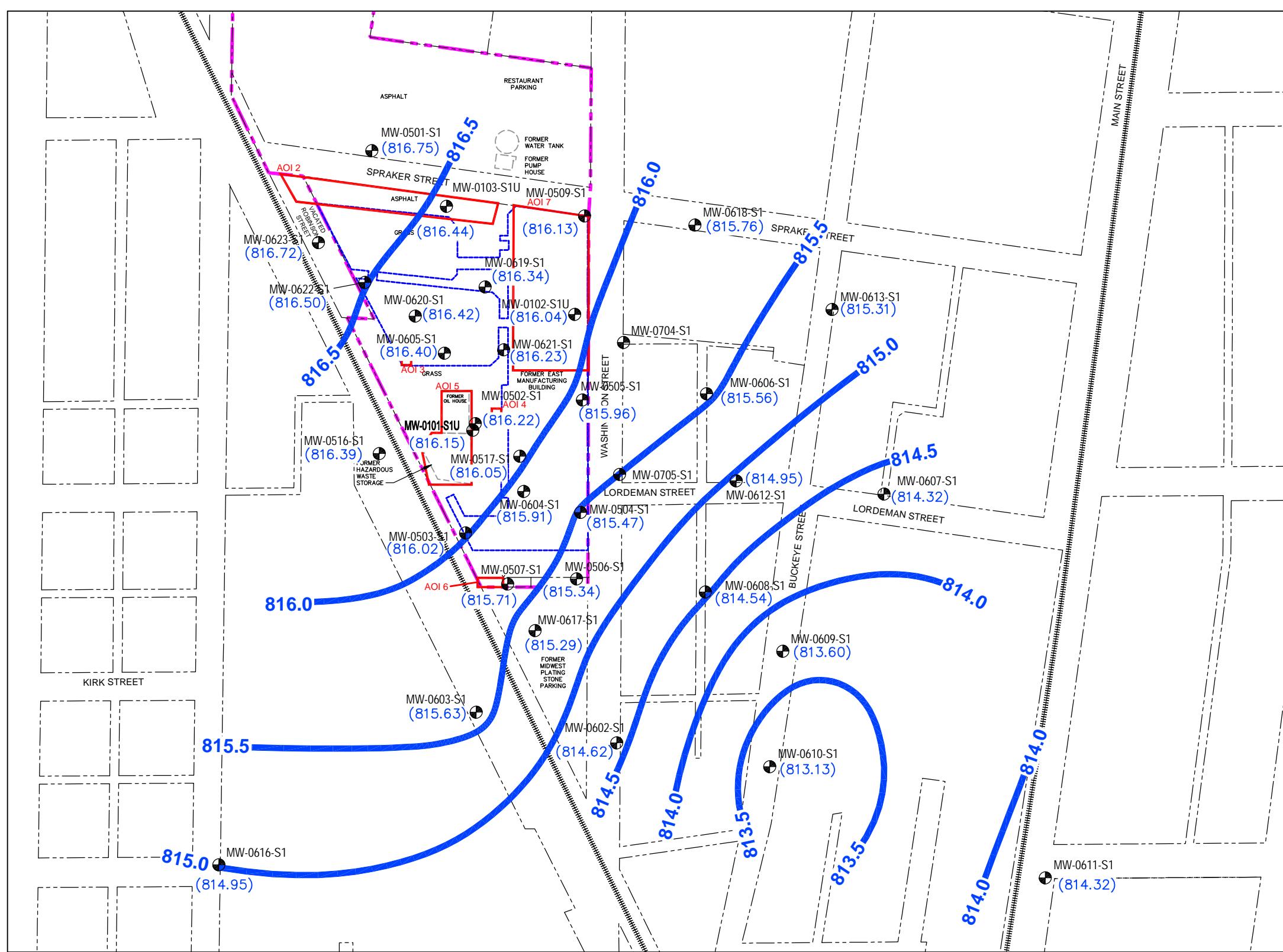
**Table 2: Groundwater Results Exceeding Drinking Water Criteria  
Former Delco Plant 5, Kokomo, Indiana**

Area	Wellzone	Location	Sample ID	Sample Type	Sample Date	Chem Group	Chemical	CASRN	Meas Basis	Conc (mg/L)	Drinking Water Criteria (mg/L)	Ratio of Conc to Drinking Water Criteria
AOI 6	S2	MW-0506-S2	MW-0506-S2(062409)	N	06/24/09	VOC	Vinyl Chloride	75-01-4	T	3.10E-03	2.0E-03	<b>1.6E+00</b>
AOI 7	S1	MW-0102-S1U	MW-0102-S1U(032206)	N	03/22/06	VOC	cis-1,2-Dichloroethene	156-59-2	T	1.00E+00	7.0E-02	<b>1.4E+01</b>
AOI 7	S1	MW-0102-S1U	MW-0102-S1U(032206)	N	03/22/06	VOC	Trichloroethene	79-01-6	T	4.80E+00	5.0E-03	<b>9.6E+02</b>
AOI 7	S1	MW-0102-S1U	MW-0102-S1U(032206)	N	03/22/06	VOC	Vinyl Chloride	75-01-4	T	2.10E-02	2.0E-03	<b>1.1E+01</b>
Upgradient	P1	MW-0501-P1	MW-0501-P1(032206)	N	03/22/06	VOC	Vinyl Chloride	75-01-4	T	6.80E-03	2.0E-03	<b>3.4E+00</b>
<b>Notes:</b>												
Only constituents exceeding the drinking water criteria during the most recent groundwater sampling at each location are shown.												
The drinking water criteria are based on the following hierarchy: State MCL, Federal MCL, risk-based equivalent drinking water limits at a target cancer risk of 1E-5 or target hazard quotient of 1.												
Ratios of concentrations to criteria greater than 1 are shaded in bold.												
Chem Group - chemical group												
Meas Basis - measured basis; T = total, D = dissolved												

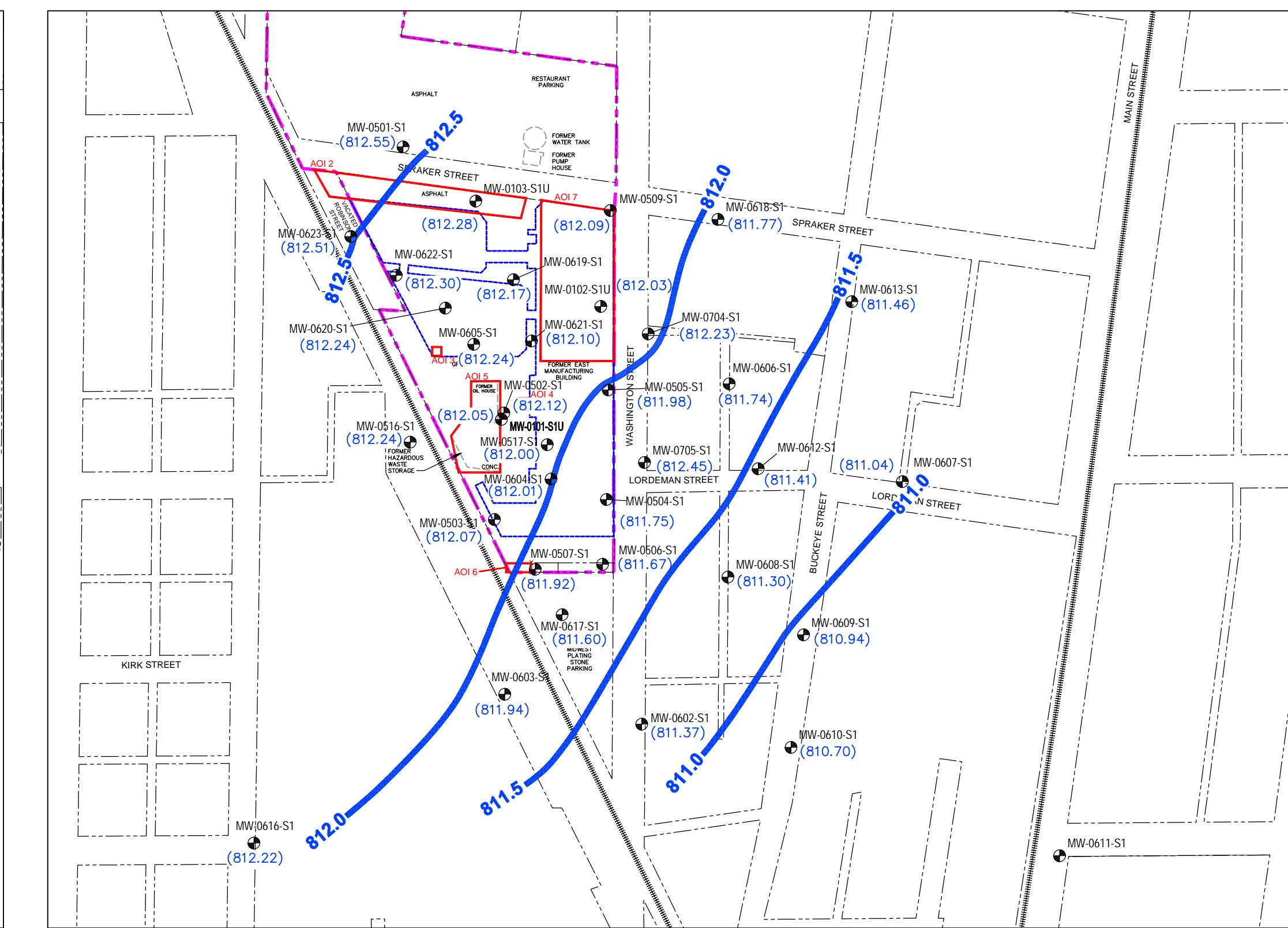
**Table 3: Summary of Chemicals Exceeding Drinking Water Criteria  
Former Delco Plant 5, Kokomo, Indiana**

On/Off-site	Wellzone	Chem Group	Chemical	CASRN	Meas Basis	Analyzed	Detected	Min Detected (mg/L)	Max Detected (mg/L)	Location and Date of Maximum Detected Concentration	Drinking Water Criteria (mg/L)	Ratio of Max Detect to Drinking Water Criteria
On-Site	I2	VOC	Trichloroethene	79-01-6	T	4	2	4.30E-03	6.00E-03	MW-0504-I2 (3/27/2006)	5.0E-03	SM 1.2E+00
On-Site	P1	VOC	Vinyl Chloride	75-01-4	T	1	1	6.80E-03	6.80E-03	MW-0501-P1 (3/22/2006)	2.0E-03	SM 3.4E+00
On-Site	S1	VOC	1,1-Dichloroethene	75-35-4	T	22	6	2.70E-03	9.40E-03	MW-0101-S1U (11/10/2006)	7.0E-03	SM 1.3E+00
On-Site	S1	VOC	cis-1,2-Dichloroethene	156-59-2	T	22	17	7.90E-03	1.10E+00	MW-0101-S1U (11/10/2006)	7.0E-02	SM 1.6E+01
On-Site	S1	VOC	Trichloroethene	79-01-6	T	22	15	7.20E-03	7.70E+00	MW-0101-S1U (11/10/2006)	5.0E-03	SM 1.5E+03
On-Site	S1	VOC	Vinyl Chloride	75-01-4	T	22	9	3.90E-03	1.00E-01	MW-0101-S1U (11/10/2006)	2.0E-03	SM 5.0E+01
On-Site	S2	VOC	cis-1,2-Dichloroethene	156-59-2	T	8	5	8.40E-03	6.34E-01	MW-0506-S2 (6/24/2009)	7.0E-02	SM 9.1E+00
On-Site	S2	VOC	Trichloroethene	79-01-6	T	8	2	1.00E-01	4.45E-01	MW-0506-S2 (6/24/2009)	5.0E-03	SM 8.9E+01
On-Site	S2	VOC	Vinyl Chloride	75-01-4	T	8	1	3.10E-03	3.10E-03	MW-0506-S2 (6/24/2009)	2.0E-03	SM 1.6E+00
On-Site	S2	INORG	Cadmium	7440-43-9	T	4	1	5.80E-03	5.80E-03	MW-0622-S2 (11/13/2008)	5.0E-03	SM 1.2E+00
Off-Site	B1	VOC	cis-1,2-Dichloroethene	156-59-2	T	11	6	1.75E-02	5.57E-01	MW-0603-B1 (6/25/2009)	7.0E-02	SM 8.0E+00
Off-Site	B1	VOC	trans-1,2-Dichloroethene	156-60-5	T	11	5	6.90E-03	1.88E-01	MW-0608-B1 (6/25/2009)	1.0E-01	SM 1.9E+00
Off-Site	B1	VOC	Trichloroethene	79-01-6	T	11	1	6.60E-03	6.60E-03	MW-0608-B1 (6/25/2009)	5.0E-03	SM 1.3E+00
Off-Site	B1	VOC	Vinyl Chloride	75-01-4	T	11	2	3.20E-03	3.60E-03	MW-0603-B1 (6/25/2009)	2.0E-03	SM 1.8E+00
Off-Site	S1	VOC	cis-1,2-Dichloroethene	156-59-2	T	18	10	1.91E-02	5.71E-01	MW-0704-S1 (6/25/2009)	7.0E-02	SM 8.2E+00
Off-Site	S1	VOC	Trichloroethene	79-01-6	T	18	7	6.94E-02	4.37E+00	MW-0612-S1 (6/25/2009)	5.0E-03	SM 8.7E+02
Off-Site	S1	VOC	Vinyl Chloride	75-01-4	T	18	8	1.00E-03	1.03E-02	MW-0616-S1 (11/14/2008)	2.0E-03	SM 5.2E+00
Off-Site	S1	INORG	Arsenic	7440-38-2	T	5	1	1.12E-02	1.12E-02	MW-0613-S1 (11/12/2008)	1.0E-02	SM 1.1E+00
Off-Site	S2	VOC	cis-1,2-Dichloroethene	156-59-2	T	10	7	2.22E-02	1.44E+00	MW-0612-S2 (6/25/2009)	7.0E-02	SM 2.1E+01
Off-Site	S2	VOC	trans-1,2-Dichloroethene	156-60-5	T	10	6	1.15E-02	1.99E-01	MW-0612-S2 (6/25/2009)	1.0E-01	SM 2.0E+00
Off-Site	S2	VOC	Trichloroethene	79-01-6	T	10	5	1.22E-02	3.90E-01	MW-0606-S2 (6/26/2009)	5.0E-03	SM 7.8E+01
Off-Site	S2	VOC	Vinyl Chloride	75-01-4	T	10	2	2.50E-03	2.60E-03	MW-0608-S2 (6/26/2009)	2.0E-03	SM 1.3E+00
<b>Notes:</b>												
Only constituents exceeding the drinking water criteria during the most recent groundwater sampling for each wellzone are shown.												
The drinking water criteria are based on the following hierarchy: State MCL, Federal MCL, risk-based equivalent drinking water limits at a target cancer risk of 1E-5 or target hazard quotient of 1.												
The criteria for Chromium (total) are the criteria provided by the agency for Chromium VI.												
SM - The criterion is the State MCL.												
Chem Group - chemical group												
Meas Basis - measured basis; T = total, D = dissolved												

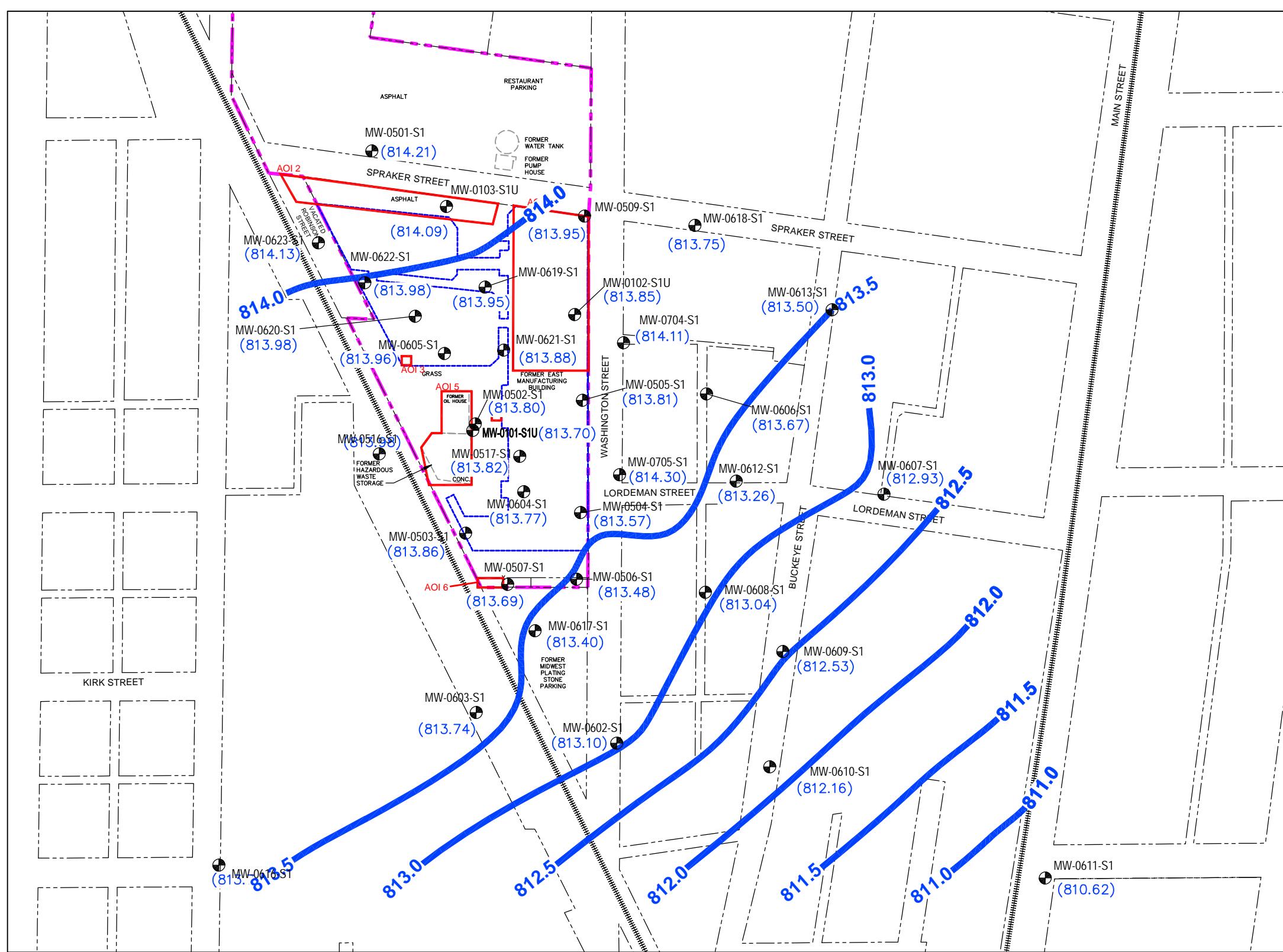




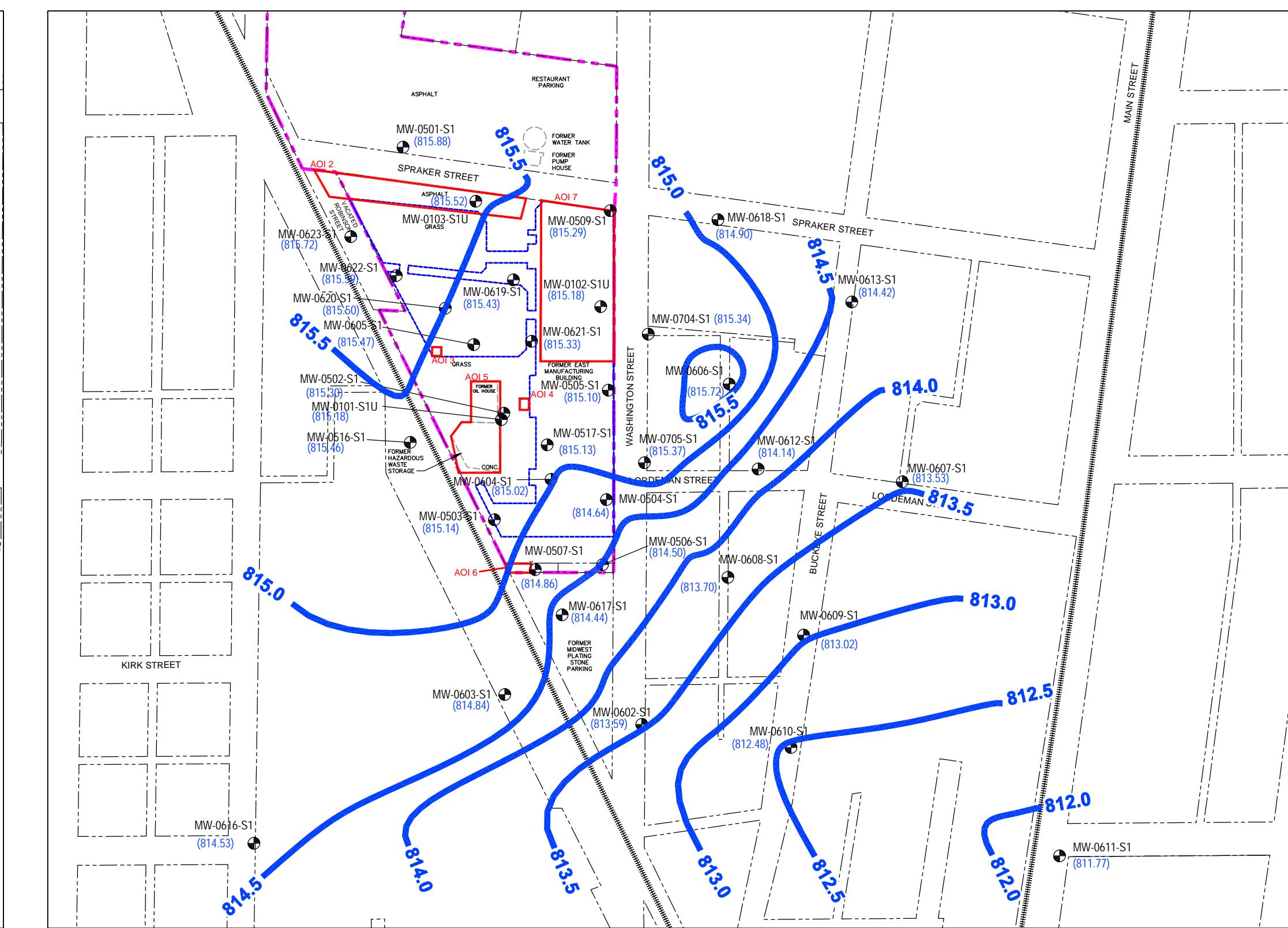
POTENIOMETRIC SURFACE  
(MARCH 8, 2007)



POTENIOMETRIC SURFACE  
(NOVEMBER 11, 2008)



POTENIOMETRIC SURFACE  
(FEBRUARY 17, 2009)

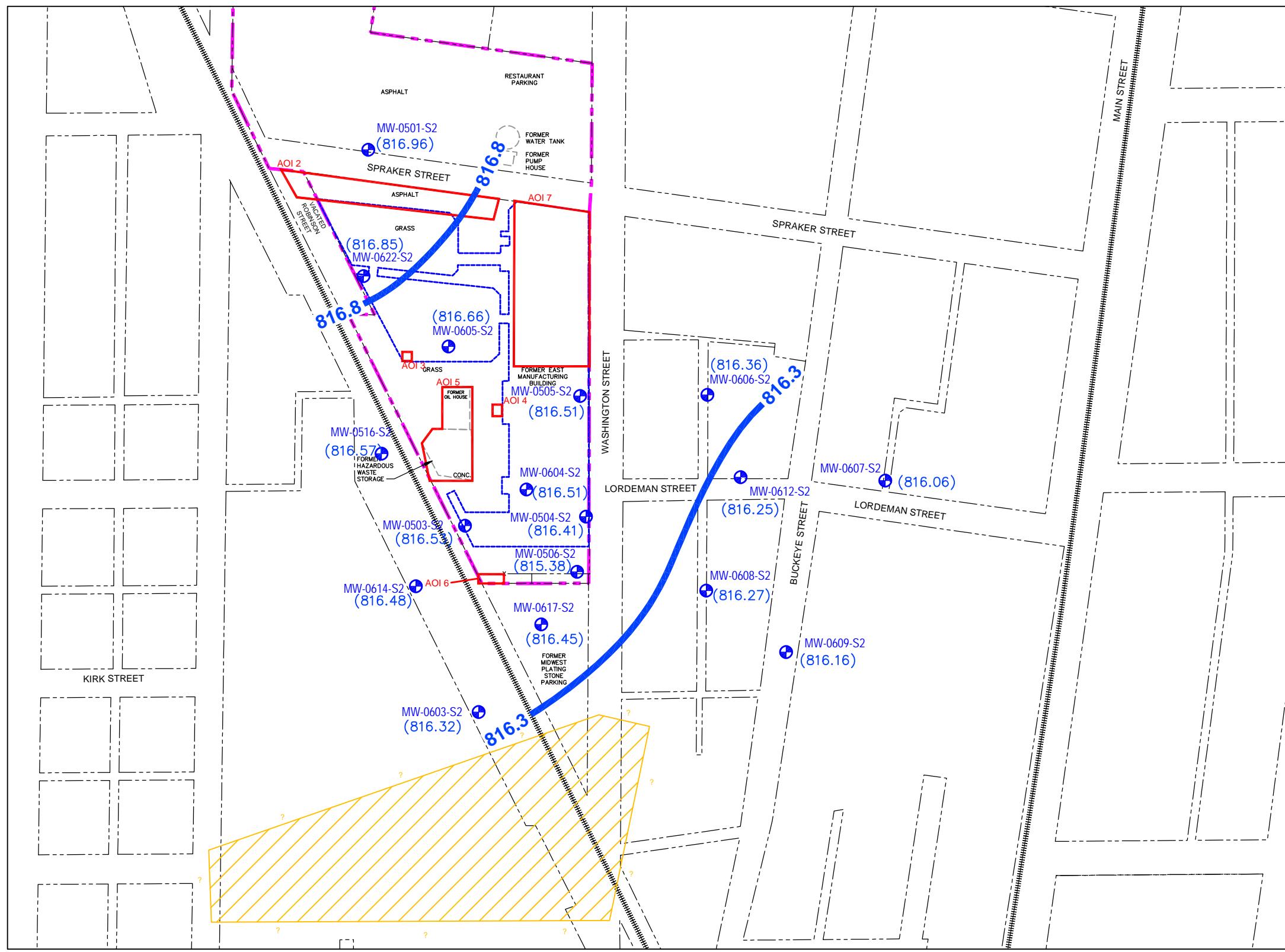


POTENIOMETRIC SURFACE  
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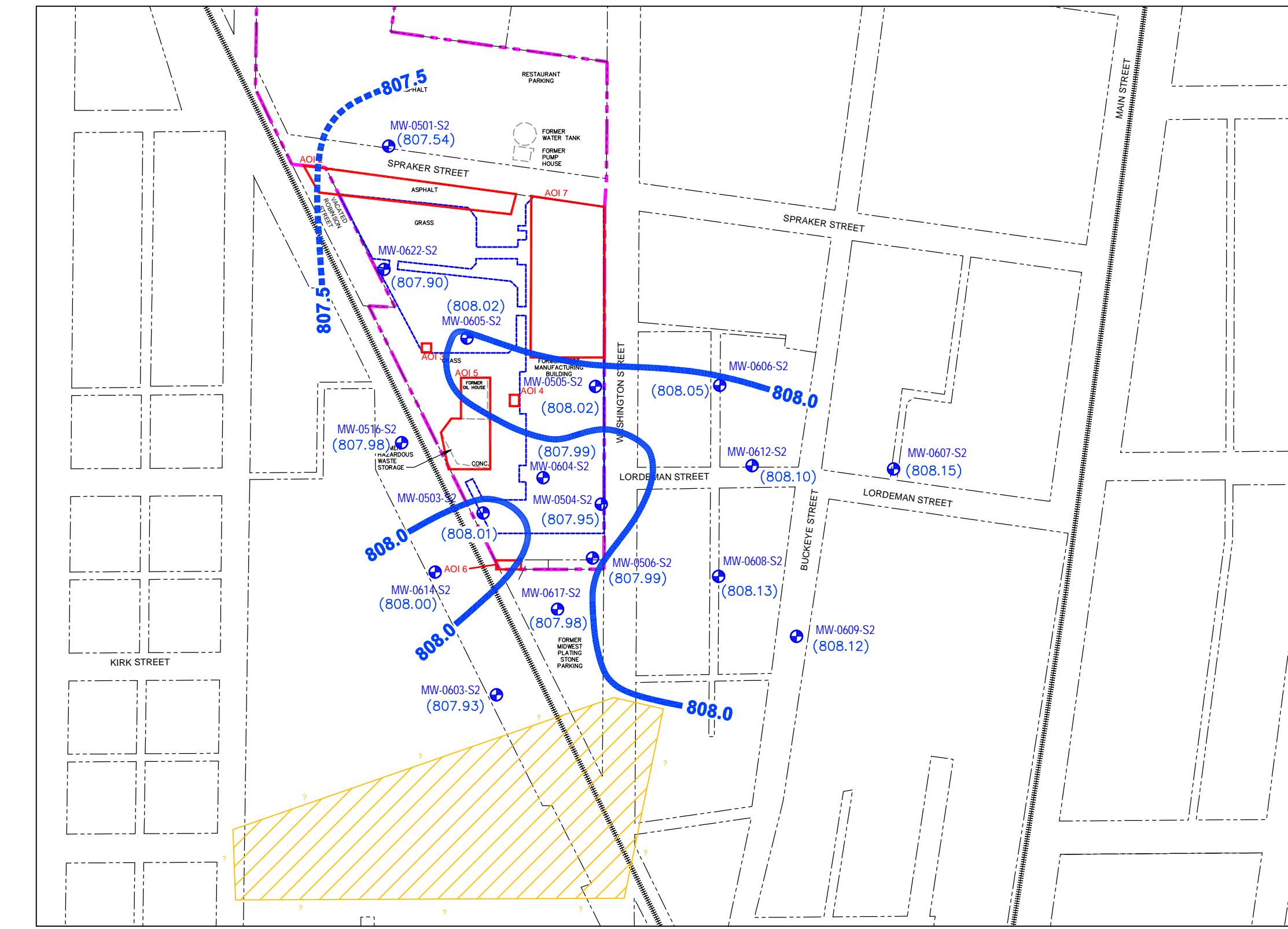
LEGEND  
MONITORING WELL S2 SCREENED IN UNIT S1  
GROUNDWATER ELEVATION  
GROUNDWATER CONTOUR (DASHED WHERE INFERRED)

0 200' 400'  
GRAPHIC SCALE  
MOTORS LIQUIDATION COMPANY  
FORMER GM DELCO PLANT 5  
KOKOMO, INDIANA  
RCRA FACILITY INVESTIGATION REPORT

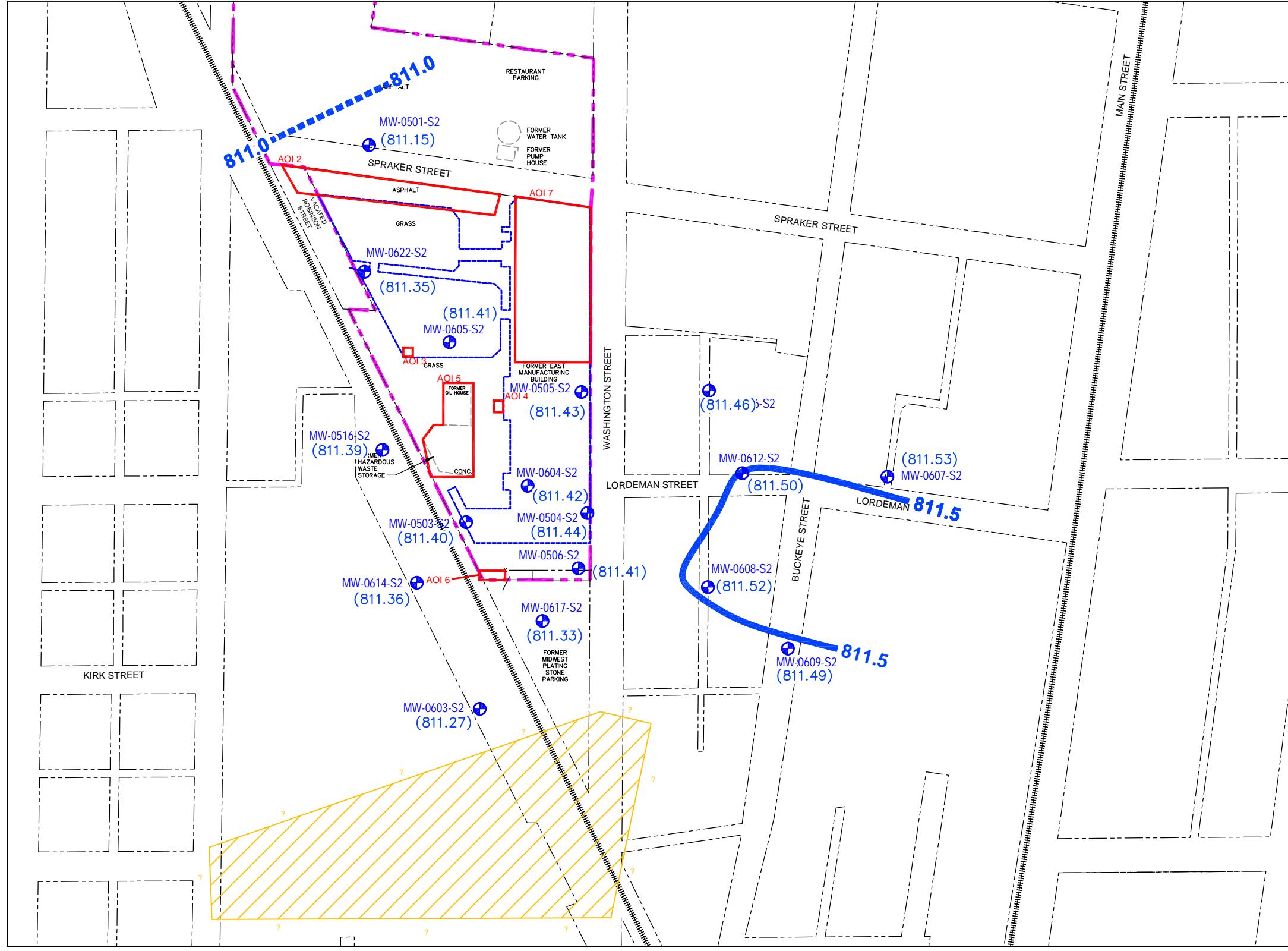
UNIT S1 - POTENIOMETRIC  
SURFACE MAPS



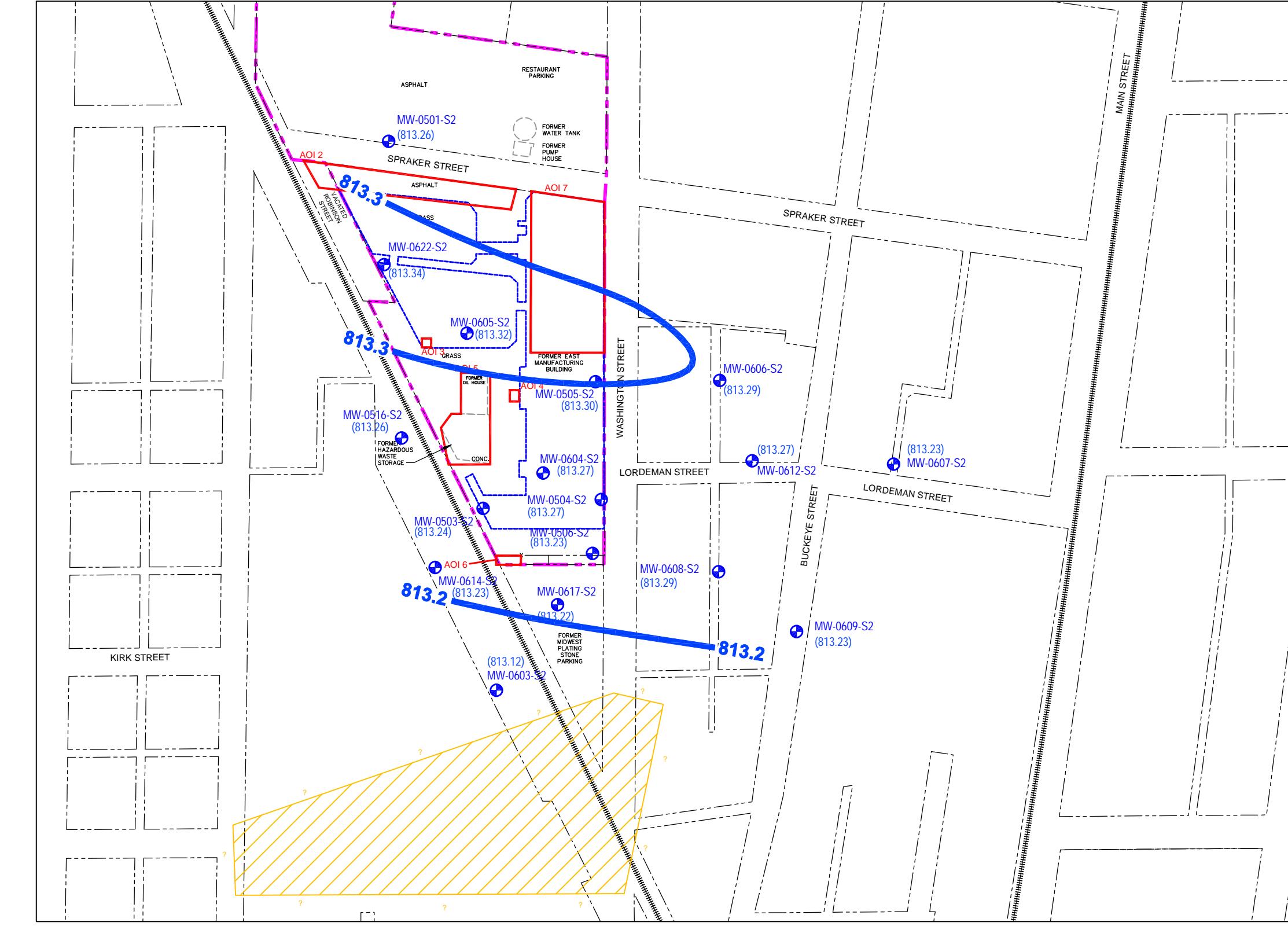
# POTENTIOMETRIC SURFACE (MARCH 8, 2007)



# POTENTIOMETRIC SURFACE (NOVEMBER 11, 2008)



# POTENTIOMETRIC SURFACE (FEBRUARY 17, 2009)



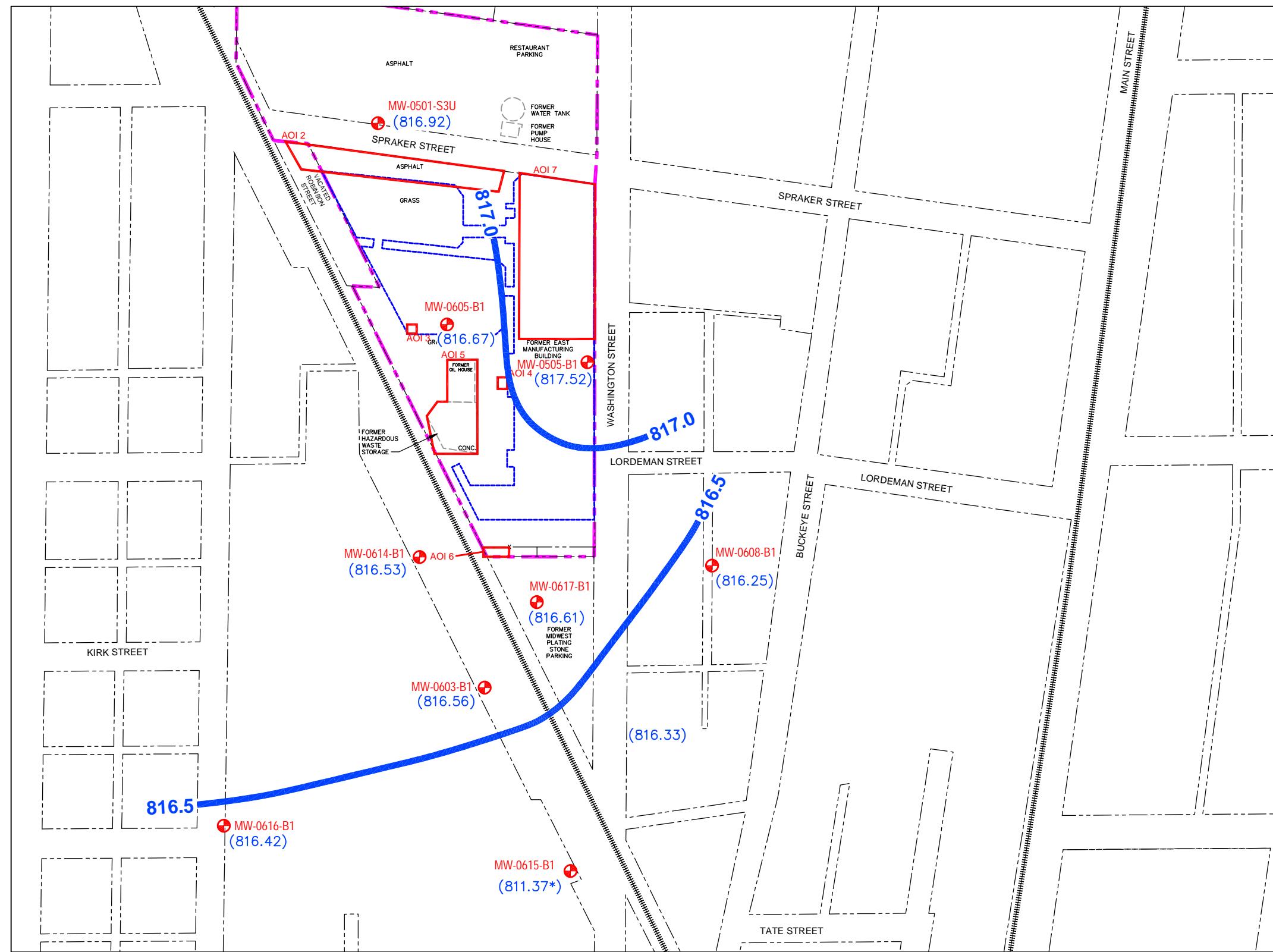
# POTENTIOMETRIC SURFACE (JULY 12, 2009)

MOTORS LIQUIDATION COMPANY  
FORMER GM DELCO PLANT 5  
KOKOMO, INDIANA

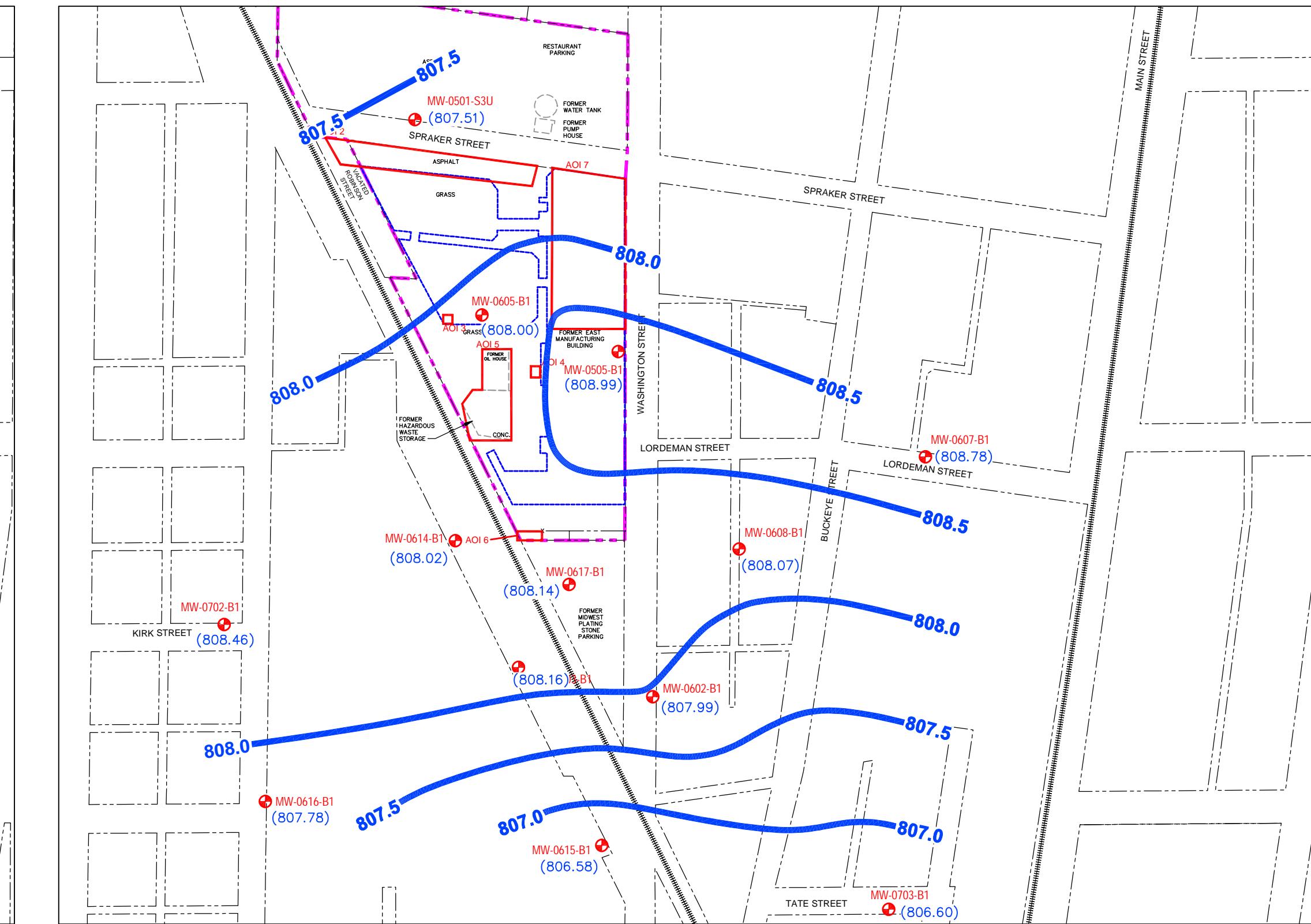
**A FACILITY INVESTIGATION REPORT**

# **UNIT S2 - POTENTIOMETRIC SURFACE MAPS**

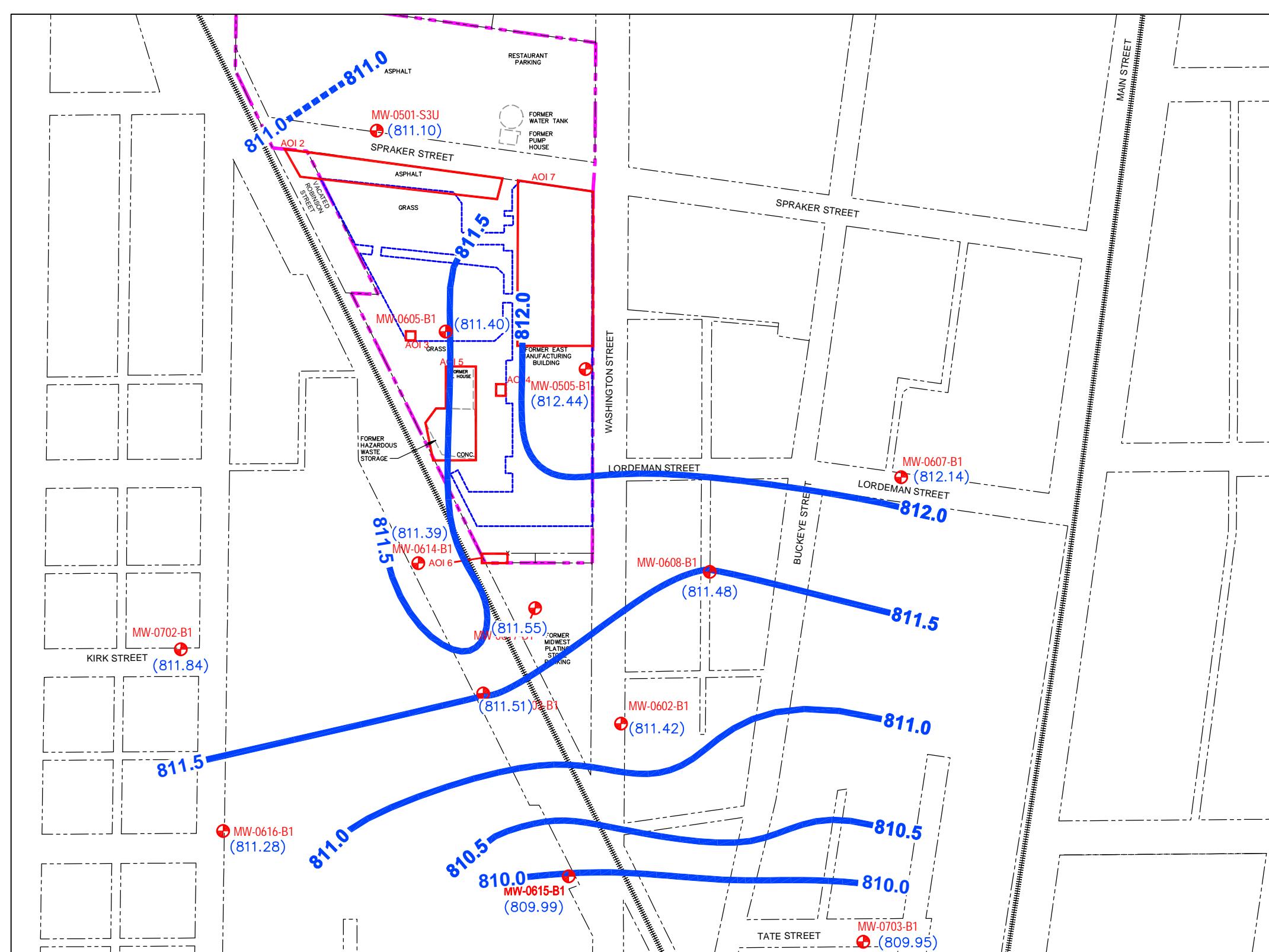




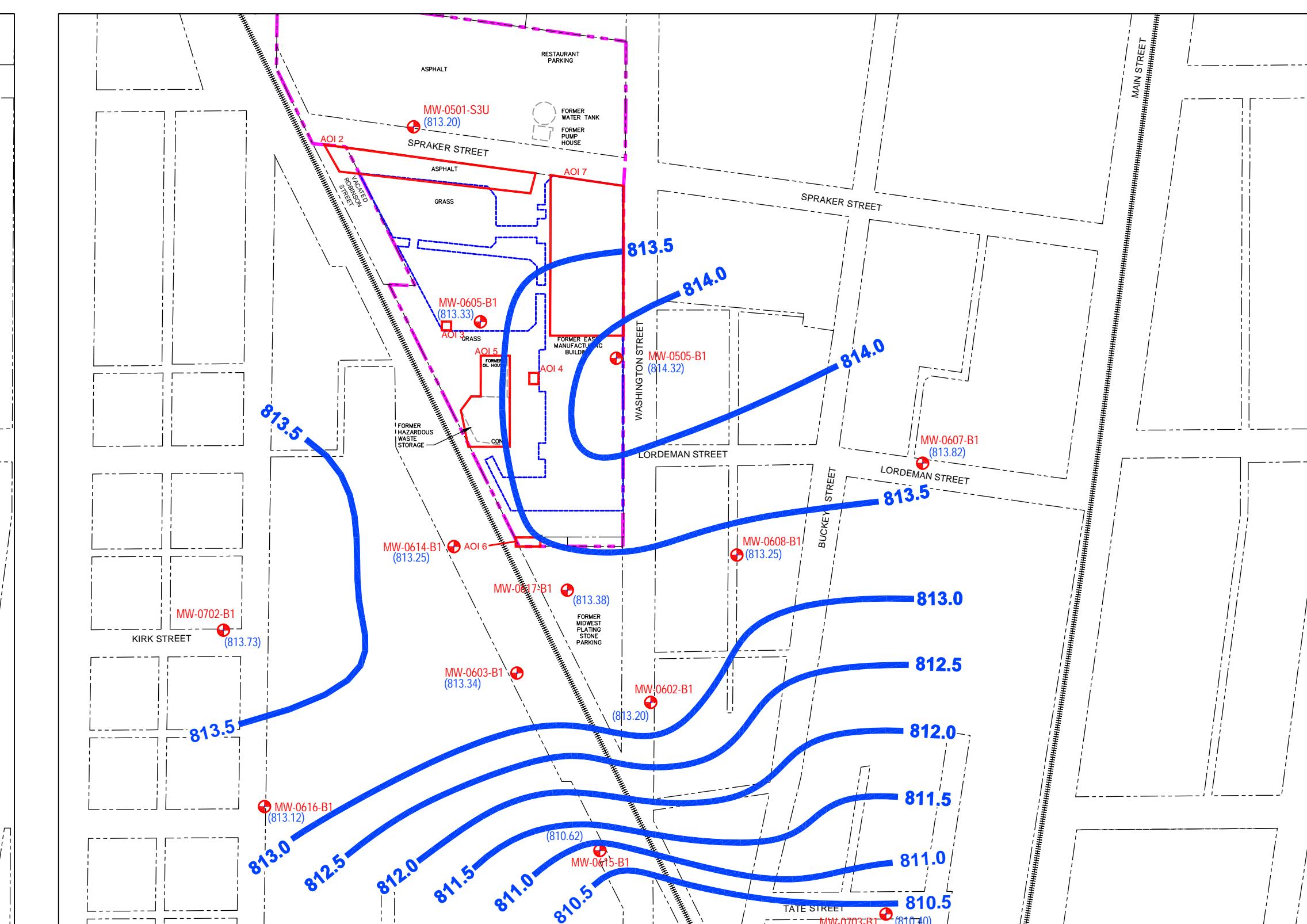
## POTENTIOMETRIC SURFACE (MARCH 8, 2007)



## POTENTIOMETRIC SURFACE (NOVEMBER 11, 2008)



## POTENTIOMETRIC SURFACE (FEBRUARY 17, 2009)



# POTENTIOMETRIC SURFACE (JULY 12, 2009)

MOTORS LIQUIDATION COMPANY  
FORMER GM DELCO PLANT 5  
KOKOMO, INDIANA

**CRA FACILITY INVESTIGATION REPORT**

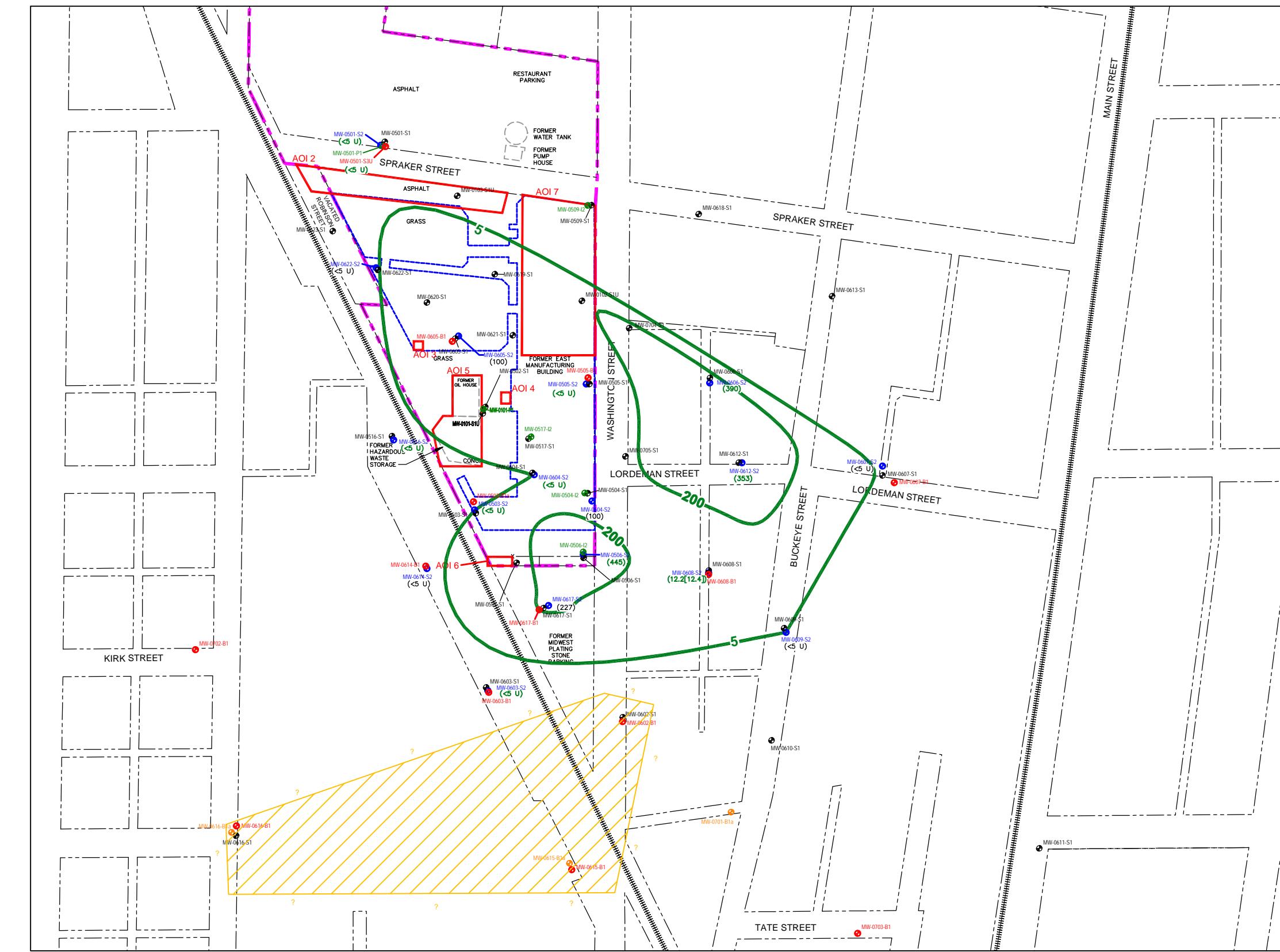
# **UNIT B1 - POTENTIOMETRIC SURFACE MAPS**

 ARCADIS | DRAW 1





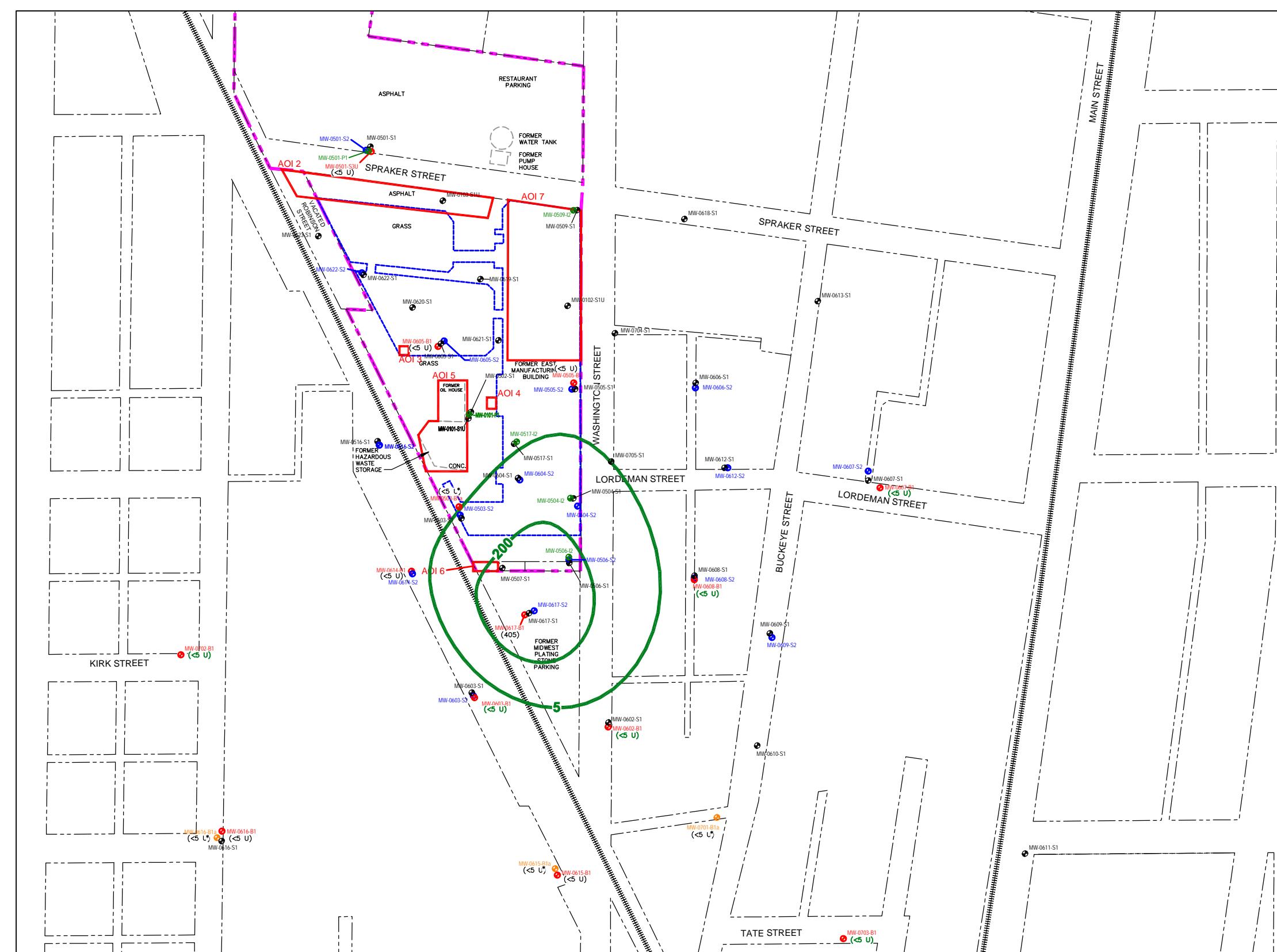
UNIT S1



UNIT S2

**LEGEND**

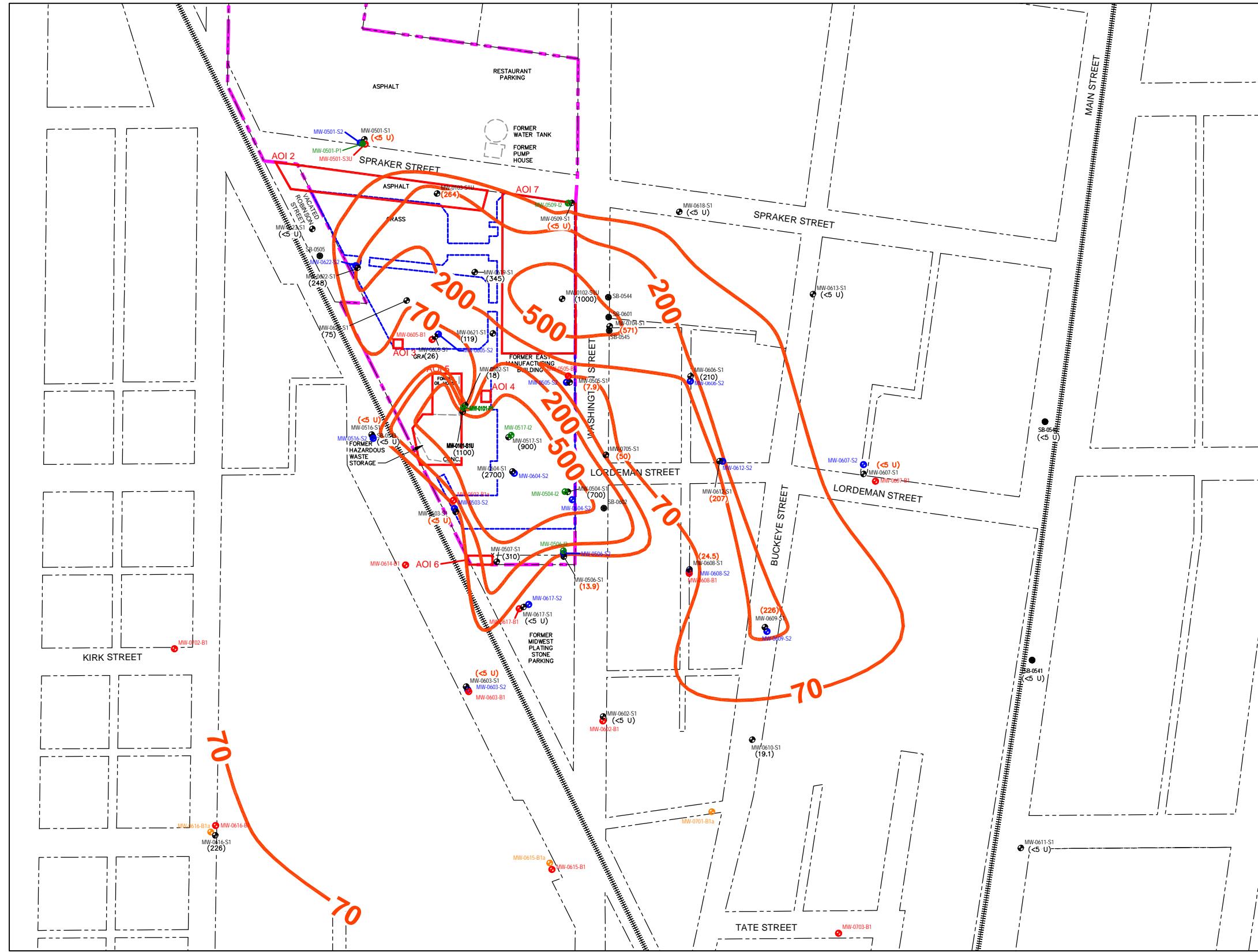
- MW-0501-P1 ● MONITORING WELL SCREENED IN DISCONTINUOUS UNIT P1 DENOTES SCREENED INTERVAL IS IN A PERCHED ZONE ABOVE UNIT S1
- 12 DENOTES SCREENED INTERVAL IS A SAND UNIT BETWEEN UNITS S1 AND S2
- MW-0603-S1 ● MONITORING WELL SCREENED IN UNIT S1
- MW-0603-S2 ● MONITORING WELL SCREENED IN UNIT S2
- MW-0603-B1 ● MONITORING WELL SCREENED IN UNIT B1. UNIT B1 REFERS TO THE UPPER-MOST TRANSMISSIVE ZONE WITHIN THE LIMESTONE BEDROCK UNIT.
- MW-0615-B1a ○ OPEN BEDROCK BOREHOLE (B1a LOCATIONS ARE OPEN BEDROCK BOREHOLES TO A DEPTH OF APPROXIMATELY 150 FT BG CURRENTLY SEALED WITH FLUTe LINERS)
- (<5 U) TCE CONCENTRATION IN  $\mu\text{g}/\text{L}$  (JUNE 2009)
- (<5 U) HISTORIC TCE CONCENTRATION IN  $\mu\text{g}/\text{L}$  (OCTOBER 2005, MARCH & NOVEMBER 2006 AND NOVEMBER & DECEMBER 2008)
- 5 — ISOCONCENTRATION CONTOUR IN  $\mu\text{g}/\text{L}$
- \* B1a DATA IS FROM THE UPPER MOST SAMPLED UNIT



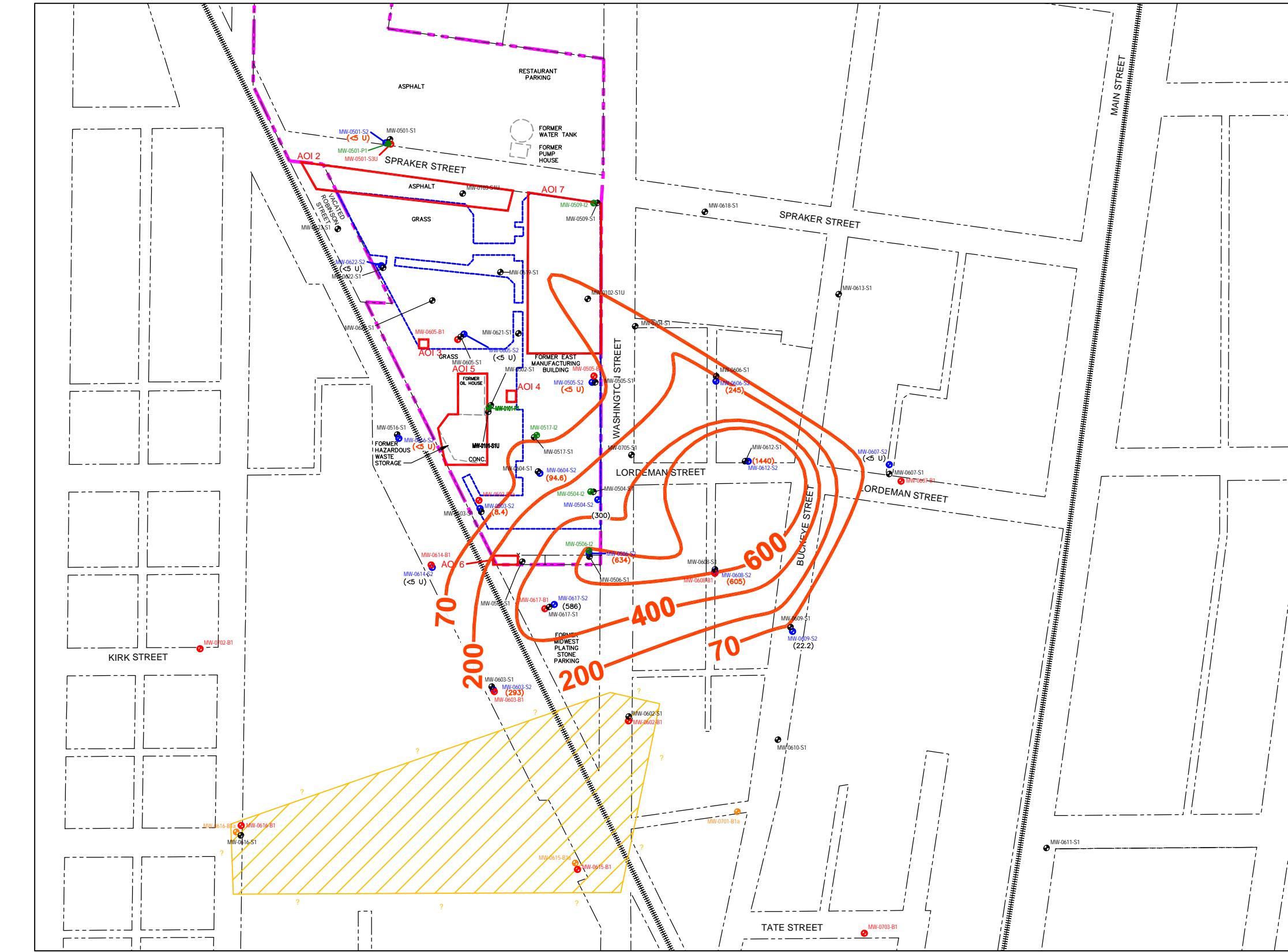
UNIT B1

**MOTORS LIQUIDATION COMPANY  
FORMER GM DELCO PLANT 5  
KOKOMO, INDIANA**  
**RCRA FACILITY INVESTIGATION REPORT**  
**TCE GROUNDWATER  
CONCENTRATION CONTOURS**

**ARCADIS** | **27**



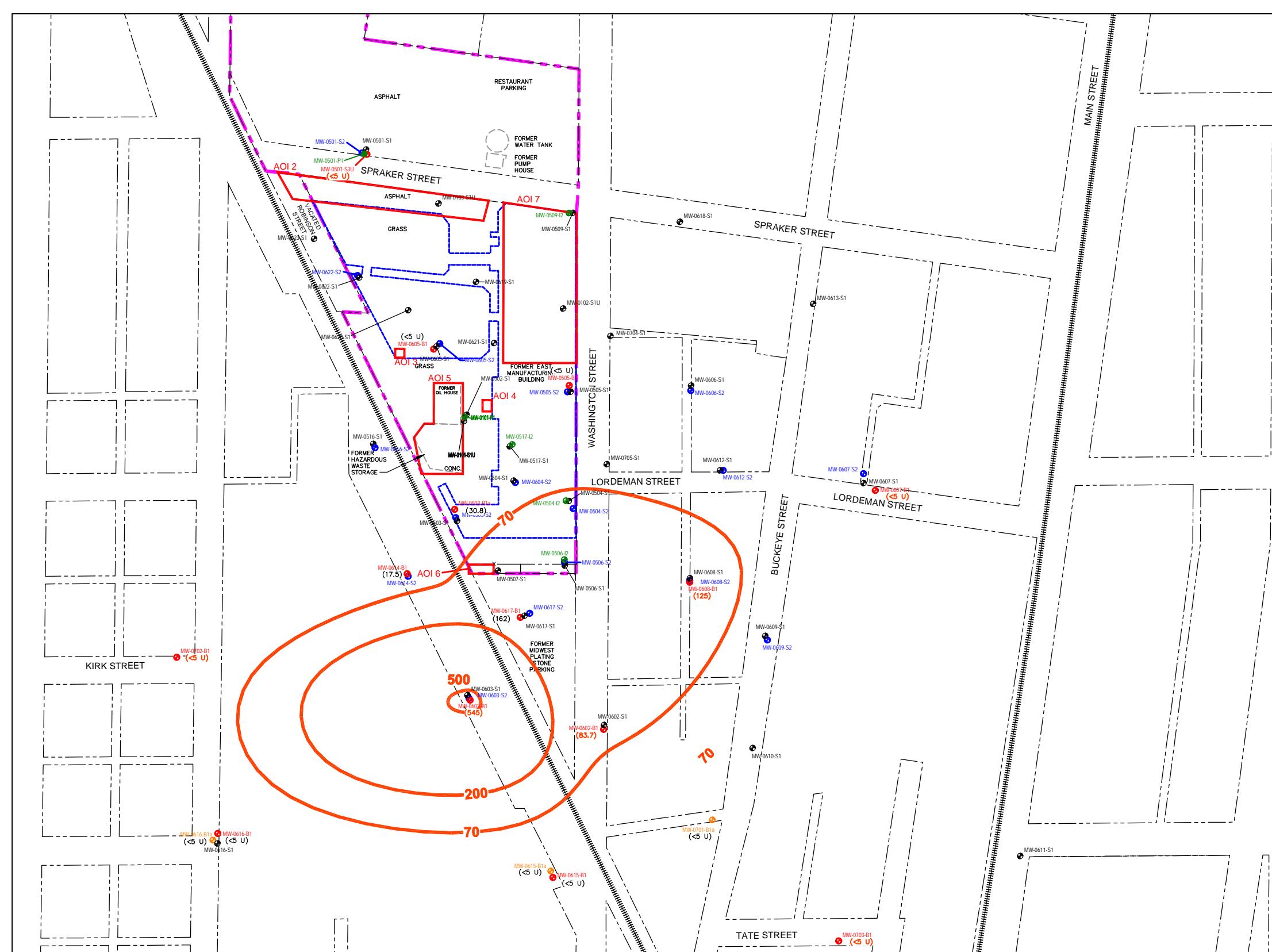
UNIT S1



UNIT S2

**LEGEND**

- MONITORING WELL SCREENED IN DISCONTINUOUS UNIT  
P1 DENOTES SCREENED INTERVAL IS IN A PERCHED ZONE  
ABOVE UNIT S1  
I2 DENOTES SCREENED INTERVAL IS A SAND UNIT BETWEEN UNITS S1 AND S2
- MW-0501-P1 (green circle)
- MW-0603-S1 (black dot)
- MW-0603-S2 (blue dot)
- MW-0603-B1 (red dot)
- MW-0615-B1a (orange dot)
- (<5 U) (purple dot)
- MONITORING WELL SCREENED IN UNIT S1
- MONITORING WELL SCREENED IN UNIT S2
- MONITORING WELL SCREENED IN UNIT B1. UNIT B1 REFERS TO THE UPPER-MOST TRANSMISSIVE ZONE WITHIN THE LIMESTONE BEDROCK UNIT.
- OPEN BEDROCK BOREHOLE (B1a LOCATIONS ARE OPEN BEDROCK BOREHOLES TO A DEPTH OF APPROXIMATELY 150 FT BG CURRENTLY SEALED WITH FLUTe LINERS)
- DENOTES AREA WHERE S2 UNIT IS NOT PRESENT
- (<5 U) CIS-1,2-DCE CONCENTRATION IN  $\mu\text{g}/\text{L}$  (JUNE 2009)
- HISTORIC CIS-1,2-DCE CONCENTRATION IN  $\mu\text{g}/\text{L}$  (OCTOBER 2005, MARCH & NOVEMBER 2006 AND NOVEMBER & DECEMBER 2008)
- 70 ISOCONCENTRATION CONTOUR IN  $\mu\text{g}/\text{L}$
- \* B1a DATA IS FROM THE UPPER MOST SAMPLED UNIT



UNIT B1

MOTORS LIQUIDATION COMPANY  
FORMER GM DELCO PLANT 5  
KOKOMO, INDIANA  
**RCRA FACILITY INVESTIGATION REPORT**

**CIS-1,2-DCE GROUNDWATER CONCENTRATION CONTOURS**

 DRAWING 29